THE LINGNAN INSTITUTE OF BUSINESS ADMINISTRATION

THE CHINESE UNIVERSITY OF HONG KONG

MONETARY INCENTIVE SCHEMES ON JOB SATISFACTION

-- A CASE STUDY

by

CHOW Shou-him

(周守謙)

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION (M.B.A.)

M.B.A.

THESIS COMMITTEE:

Professor H. SUTU

Mr. Cecil C. LUK

Professor Shiu L. KONG

Professor Maurice MOONITZ
(University of California, Berkeley)

May 1974

SYNOPSIS

Since 1969 there has been a growing shortage of labor supply in the Hong Kong industrial sector. In order to attract and hold workers, the spinning and weaving industry pays a great deal of attention to providing monetary incentive schemes for its workers. Monetary incentive schemes are in fact beneficial both to the employer and the employees. On the one hand, a company wants to increase productivity and improve the quality of its products; on the other hand, it wants to meet the employees' wants and reward them.

It was the primary attempt of this thesis to investigate whether or not there was any correlational significance between monetary incentive schemes and job satisfaction. Besides this, the study attempted to evaluate the impact of monetary incentive schemes offered by a firm on some of the possible indicators of job satisfaction, namely, productivity, turnover rate, absenteeism and labor unrest. The author used the South Sea Textile Manufacturing Company, Ltd. as a case study. Some recommendations are made to the management of the firm on the application of monetary incentive schemes and how generally to improve the workers' job satisfaction.

The study was confined to the workers who have gone through their training periods and are presently engaged in direct production at the mill. They are known as machine operators by the company. The tool used to survey the machine operators was a structured, non-disguised questionnaire. Most of the questions were in the form of multiple choice, while sometimes, open-questions to solicit interviewees' opinions were also employed. As far as the

interviewees' opinions was concerned, a five-point Likert Scale was used to record their attitudes. The Questionnaire was administered according to the rules of both stratified and random sampling.

It was found that there was correlational significance between the six monetary incentive schemes under study and the expressed job satisfaction of the machine operators at South Sea Textile Manufacturing Company, Ltd. The author also found that there was a close relationship between monetary incentive schemes and productivity, turnover rate and absenteeism.

ACKNOWLEDGEMENT

The author wishes to thank Dr. Dean F. Olson, his former teacher, Professor Shiu L. Kong, his extra departmental examiner, Mr. Cecil C. Luk, his thesis supervisor, Professor Maurice Moonitz of University of California, Berkeley, his external examiner, and Professor H. Sutu, the Director of the Lingnan Institute of Business Administration (LIBA), the Chinese University of Hong Kong, for their valuable and constructive criticism. Sincere thanks, as well, are due to Mr. C.Y. Chan, Mr. K.C. Mok, Mr. S.S. Chow, Mr. Y.L. Yeung, Mr. S.C. Wong, Mr. S.M. Yuen and Mr. H.M. Yau, LIBA students, all of whom helped the author by conducting interviews.

The author particularly wishes to express his gratitude to the management and staff of South Sea Textile Manufacturing Company, Ltd., for their cordial co-operation and for allowing the author to conduct interviews in the mill. Thanks are also extended to Mr. H.K. Lai, Chief Accountant of South Sea Textile Manufacturing Company, Ltd., and a graduate of the Lingnan Institute of Business Administration, for proofreading the chapters concerning the operations of the company. Finally, the author would like to thank Mrs. B. Carmone for editing this thesis and Miss O.N. Lee for her industrious effort of typing it.

May 1974
Hong Kong

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

TABLE (Continued) PAGE

TABLE (continued) PAGE

TABLE (continued) PAGE

1.0 INTRODUCTION TO THE STUDY AND STATE OF THE ARTS

1.1 Purpose of the Study

Nearly all industrialists will admit that money is an important motivator, yet the relationship of monetary rewards to job satisfaction has been a very controversial subject. Despite the fact that some studies (41) (54) have shown that there is correlational significance between income level and job satisfaction, it is certain that when the total sum of monetary rewards exceeds a certain amount, money will not be an important motivator and may have no effect at all on job satisfaction.

The weaving and spinning industry in Hong Kong pays a great deal of attention to providing individual monetary incentive schemes for its workers. Monetary incentive schemes are important in the weaving and spinning industry in that the sanitory conditions of the working environment (e.g., air ventilation, noise, lighting etc.) are comparatively less favorable than in other industries e.g., electronic, toy etc.. Furthermore, the job is mechanical and routine and involves a certain amount of risk. The management of the weaving and spinning industry, by providing various types of individual monetary incentive schemes, aims at improving the following two groups of factors: material factors and human factors. Material factors include quantity of output, plant utilization, use of services (e.g., steam, water, electricity etc.), quality

of product, process efficiency, standard of safety and work cleanliness. Human factors include effectiveness of work, interest in work, need for supervision, ideas for new methods, team spirit, absenteeism and labor turnover (30).

Ever since 1969, there has been a growing shortage of labor for the weaving and spinning industry. In order to hold workers and to ensure the even flow of production lines, management in the spinning and weaving industry is very concerned with the normal wage rates and individual monetary incentive schemes for the workers. It is of utmost importance for the management of the weaving and spinning industry to offer attractive individual monetary incentive schemes to encourage workers to take up the night shift and overtime work, to reduce absenteeism and turnover rate, and to increase productivity.

It is the primary attempt of this thesis to investigate whether or not there is any correlational significance between monetary incentive schemes and job satisfaction; the author will use South Sea Textile Manufacturing Company Limited as a case study. Apart from the academic interest, the study also attempts to explore and evaluate the following issues:

1. the impact of monetary incentive schemes offered by the firm on productivity, turnover rate, absenteeism and labor unrest.
2. the importance of cohesive groups.
3. the effectiveness and application of these monetary incentive schemes.

Finally, recommendations are made to the management of the firm on how to improve the workers' job satisfaction on the whole, and to suggest remedies for job monotony.

1.2 Methodology, Scope, Tools And Limitations

1.21 Method of the Study

Library research, questionnaire survey, personal interviews with various levels of management of the firm, and observation of the daily operations in the mill make up the methodology of the present study.

Library Research

The library research covers various Hong Kong Governmental publications such as the Hong Kong Annual Report, the Annual Departmental Report, Hong Kong Statistics, Hong Kong Monthly Digest of Statistics etc.; trade bulletins published by the associations concerned, books on motivation theories and financial incentives, business journals, periodicals and newspapers. The research was conducted mainly at the libraries of the Chinese University of Hong Kong, the University of Hong Kong, the Hong Kong Management Association, the Commerce and Industry Department of Hong Kong, the Hong Kong Productivity Center and the research departments of three leading Hong Kong newspapers: the South China Morning Post, Wah Kui Yat Po and Ming Pao Evening News(which is solely for business news). The greater part of the data obtained in this study came directly from the Hong Kong Cotton Spinners Association and the firm under study.

Personal Interview and Observation

It was fortunate that the author had the opportunity to spend three months working at South Sea Textile Manufacturing Company Limited during the summer of 1973. The author was able to study operations in the various departments under the supervision of senior mill executives of the firm. The author has gained a sound knowledge of the overall operations as well as an in depth observation of the whole mill. Moreover, numerous visits were made to various levels of management of the firm during the period between October 1973 to February 1974, to seek their opinions on the design of the questionnaire. People whom the author has interviewed include managers and the Chief Accountant of the Sales Office situated in the Central District of Hong Kong Island[1], the Mill Manager, the mill personnell managers, the Mill-Accountant-in-Charge, chief engineers, engineers and supervisors. Besides seeking the opinions of the aforementioned on the design of the questionnaire, the author also sought relevant data from their files and documents to enrich this study. In fact, the interviews with the management of the firm have proved to be extremely beneficial, and their feedbacks constructed a good foundation for the refinement and final formation of the questionnaire.

1.22 Scope

The author took the South Sea Textile Manufacturing

---

[1] South Sea Textile Manufacturing Company Limited, 501, Edinburgh House, Des Voeux Road Central, Central District, Hong Kong.

Company Limited as an intensive case study. The study is confined to the workers who have gone through their training periods and are presently engaged in direct production at the mill. They are known as machine operators by the Company.

1.23 Tools

The tool used to survey the machine operators is a structured, non-disguised questionnaire[1]. Most of the questions asked are in the form of multiple choice, while sometimes, open-questions to invite interviewees' opinions are also employed. As far as the interviewees' attitude is concerned, a five-point Likert Scale is used to record their attitudes.

The questionnaire was administered according to the rules of both stratified and random sampling. With the help of the Chief Engineers of the Spinning and Weaving Sections of the mill, the actual number of machine operators in each production room of each workshop for each shift was located. There are three shifts for machine operators in SSTMC (Table 1.2.1) operating continuously.

Table 1.2.1: Time Duration for the Three Shifts

Shift	Time
Morning Shift	7.00 a.m. - 3 p.m.
Afternoon Shift	3.00 p.m. - 11.00 p.m.
Night Shift	11.00 p.m. - 7.00 a.m.

[1] See Appendix A

About 95 per cent of the machine operators are of female in the Morning Shift and they do not move to any other shift. For the Afternoon Shift and Night Shift, 90 per cent are men and they change their shift after every payment period, i.e., 15 days. As a result, machine operators for the Afternoon Shift during this payment period will be on the Night Shift in the coming payment period. Under the Spinning Section, there are three Spinning Workshops, namely, Number One, Number Two and Number Four. Spinning Workshop Number One is the oldest and is mainly for cotton spinning. Spinning Workshop Numbers Two and Four are comparatively better equipped with newer machinery and are used exclusively for blended cotton spinning. There are two Workshops under the Weaving Section, namely, Workshops Number One and Three. Weaving Workshop Number Three has only some of the production rooms of a proper weaving workshop and some of the processes are done in Workshop Number One.

One-half of the machine operators in each production room for each shift under each workshop were interviewed. The machine operators being interviewed were drawn by random sampling method. After having entered each production room, the interviewer first assigned a number to each machine operator and drew lots to decide who should be interviewed. In case there was an odd number for a certain shift in a certain production room, say, when there was only one machine operator on each shift, the machine operator on the Morning Shift would definitely be interviewed, and a lot drawn to decide whether the Afternoon Shift or the Night Shift Machine Operator should be interviewed. The reason is that machine operators on the

Morning Shift will not move to the Afternoon Shift or the Night Shift, whereas the Afternoon Shift and the Night Shift Machine Operators are changing their shifts all the time. As a result, the Afternoon Shift and the Night Shift machine operators can be treated almost as the same group.

A preliminary survey was conducted in November 1973 under the supervision of Dr. Dean F. Olson, Visiting Associate Professor of the Lingnan Institute of Business Administration, the Chinese University of Hong Kong to test the validity of the survey, and the actual research was completed in the middle of March 1974, under the supervision of Mr. Cecil Luk, the thesis supervisor of the author.

1.24 Limitations of the Study

Since the title of this thesis is "Monetary Incentive Schemes on Job Satisfaction--A Case Study", the author will confine his study on the possible relationship of monetary incentive schemes and expressed job satisfaction. Some effects of job satisfaction as conceived by the author such as productivity, turnover, absenteeism and labor unrest are evaluated only in connection with monetary incentives. It is not within the scope of the study to make any research on other correlations between expressed job satisfaction and variables like sex, marital status, age, education level, tenure and income, each of which could constitute an entire study.

Furthermore, as will be discussed in the following sections of this study, the terms "motivation of behavior" and

"job satisfaction" are highly complicated ones. Various authors have different definitions and conceptions of the terms. As a result, the author will use his own judgement and take the thesis supervisor's advice on defining the two terms after having surveyed the relevant literature. Since there is not yet a standardised measurement for job satisfaction, the author has created his own design for measuring job satisfaction. Again, the design is primarily based on the current literature that the author has surveyed, and it is his feeling that this design is the best possible and most practical one for weaving and spinning machine operators in Hong Kong. As mentioned before, the design of the questionnaire is based on the author's personal experience with the machine operators and the valuable opinions of various levels of management of SSTMC. The design has undergone a preliminary survey and its validity has been tested. Nevertheless, the author has to admit that the designed measurement is far from perfect, since the design is based on a very high degree of subjectivity on the part of the author. As in all such studies, some faked answers are inevitable.

1.3 Relationship of Study to Ongoing Academic Work

1.31 An Overview of Motivation Theory[1]

In any organization, large or small, no individual will contribute the same amount, despite the fact that they are in the same firm and doing exactly the same job. This applies to all levels of management and blue collar workers. If some qualitative measurements or quantitative measurements were designed to measure the differences between their contributions, surprisingly great differences might be found. Some people may perform two, five or even ten times as well as an average individual. On the other hand, some may perform two, five or ten times as poorly as an average individual. It is then interesting to consider the question of what accounts for the great differences between individual performances?

The behavorists have presented us with two assumptions to answer this question. The first assumption is that people are basically different in their capabilities and experiences. As a result, some people are more suited to a certain kind of work while other people are more suited to other kinds of work. People who are good at physical sciences are not necessarily as good at social sciences, and people who are good at social sciences are not necessarily also good in the arts. In fact, few people are good at both of the extreme subjects. This

---

[1] A good introduction to work motivation can be found in Management and Motivation, Victor H. Vroom & Edward L. Deci, eds., 1973 Penguin Books Ltd., Harmondsworth. Some materials in this section are taken from it.

assumption has given rise to a lot of organizational strategies for improving work performance. To select the most qualified candidates for particular jobs is one of the human resources utilization strategies. It is easy to imagine that a job which requires great physical capability will exclude those candidates who fail to pass certain physical strength tests, and that a job which requires certain professional competency will tend to exclude those candidates who have no concepts about that field of knowledge. As professional competency can be improved from adequate training, organizations also adopt systematic on-job training to develop the requisite abilities and skills of their employees. Some organizations even think of tailoring jobs to suit the capabilities and skills of their employees.

The other assumption which tends to give an answer to the above question is the fact that there are a lot of differences in motivation among people. This assumption states that differences in motivation among individuals will cause them to contribute differently, although they are working in the same organization, on the same kind of job and with the same necessary skills and experiences. But, what is meant then by the term "motivation"? There are many different definitions of the term given by behavorists. One of the definitions given by Billy J. Hodge and Herbert J. Johnson is

"The propensity or level of desire of an individual to behave in a certain manner at a certain time" (20). Tannehill defines it as:

"Motivation is influence, a force that gives rise to

behavior" (52). For the purpose of our study, the most appropriate definition seems to be Saul W. Gellerman's that motivation is

> "Any influence that causes an individual consciously to select a course of action for himself other than one he might have chosen in the absence of that influence"

Thus a motivation is "something that changes the balance of forces affecting an individual's decisions," and that it "makes a difference; its presence is felt" (12).

There are many schools of thoughts about the theory of motivation. The earliest concept about motivation can even be traced back over twenty-five hundred years ago to the utilitarians like Jeremy Bentham and John Stuart Mill. The central assumption of this school of thought is that man is a pain-avoiding and pleasure-seeking animal. When man is faced with alternatives, he will choose the course of action that will maximize his pleasure and will try to avoid a course of action that will give him pain. The concept thus implies that man is essentially a rational animal and will be able to take the course of action which will be most beneficial to him. This concept of hedonism had a great influence on early psychologists like William James and Sigmund Freud. Nevertheless, the hedonistic assumption has no empirical content and was untestable (51).

But this rational-hedonistic concept of motivation is by no means dead. Many studies by current psychologists have tried to fill in the mission empirical content in hedonism.

Thus people are assumed to behave in ways that will maximize those outcomes like satisfiers, rewards and positive reinforcements, etc. and to minimize those outcomes like dissatisfiers, punishments, negative reinforcements, etc..

Another school of thought regarding motivational theory is the "instinct" school. The central assumption of this school is that man has certain basic instincts and it is these instincts that make him act in certain ways. According to Sigmund Freud, "an instinct is defined as an inborn condition which imparts direction to psychological processes" (10). It has a source, an aim, an object, and an impetus. Many psychologists in the Freud era agreed that man had a number of instincts to motivate him to act in certain ways. In a study done in the early twenties, 6,000 different instincts were identified and attributed to man by a variety of psychologists (51). This instinct theory has undergone quite a number of modifications, and from it has developed the concept that man learns most of his behavior in a particular cultural environment within which he has grown up. Consequently, man's behavior is based on both of inherent instincts and what he learns in his cultural environment.

The drive school is similiar to that of the instinct school. A drive can be regarded as a kind of instinct, but it has a broader thrust of power in a general direction. In its pure state, it is not a determinant of behavior, but it leads an individual to a learned pattern of behavior. For example, all men in all cultures have drives to attain high position; however, the ways that individuals pursue the satisfaction of

these drives are different, and even the definition of what a high position is may vary in different cultures.

There is still one more school of thought regarding man's behavior as motivated by different "needs." The central assumption of this school is that man has certain intrinsic needs, and that his behavior is mainly determined by his attempts to satisfy these needs.

Again, quite a number of behaviorists have tried to give definitions of the needs as they conceive of them. Of the many scholars in this field, Abraham Maslow, Frederick Herzberg and David McClelland have contributed the most on the need concept.

Maslow is concerned with man in general. He hypothesizes five classes of needs that are arranged in hierarchical levels of prepotency so that when one need level is satisfied, the next level is activated (36). The following figure shows how these needs are arranged in their order of potency, with the most basic needs at the bottom of the pyramid.

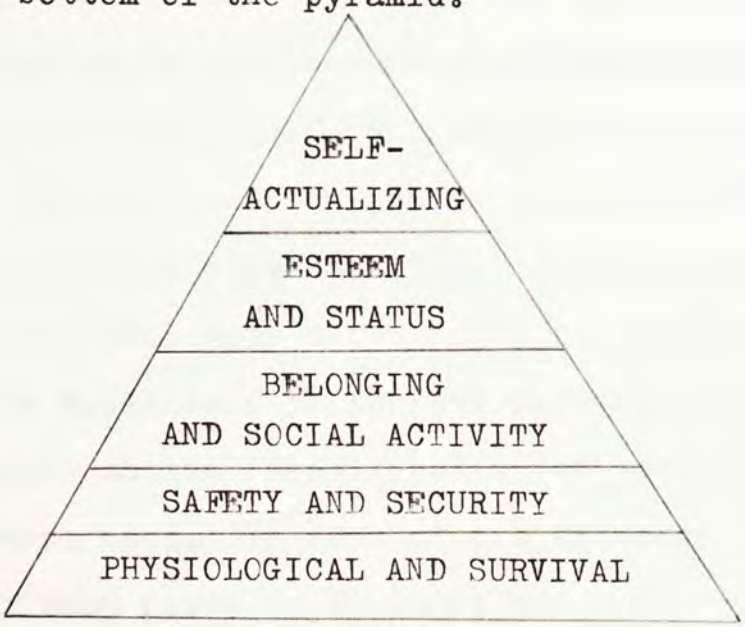


Fig. 1.3.1. MASLOW'S HIERARCHY OF NEEDS

Herzberg, on the other hand, deals more directly with motivation at work. The central theme of his hygiene-motivation theory states that man has two different sets of needs. One set of needs he calls maintenance or hygiene needs, while the other set of needs he refers to as motivation needs (17). Hygiene needs are primarily preventive in nature and these are something that must be met continuously. Herzberg refers to them as replenishment needs, since they have the effect of going back to zero as soon as they are no longer satisfied. For example, a person gets thirsty and drinks. If he gets thirsty again, he must drink again, and this is what he means by going back to zero as soon as the needs are no longer satisfied. The hygiene needs include such elements as physical working conditions, supervisory policies, wages, various fringe benefits, etc.. Herzberg admits that these elements are important to man but points out that they are not really motivators since they cannot activate man to reach out, expand and grow. As a result, if the hygiene needs are not met, man will be unhappy. However, satisfying such needs does not necessarily make man happy. For the other set of needs, i.e., motivation needs, Herzberg lists achievement, recognition, advancement, responsibility, and work itself. Herzberg believes that these are the things that provide an individual with a feeling of accomplishment.

David McClelland of Harvard University (38) has concentrated mainly on the identification of one particular need, viz. achievement need. In many of his articles, he relates the importance of such needs to business and industry. However, the achievement need is a high order need and very often, this may

not be applicable to blue collar workers who generally have little achievement motivation.

Based on the above different schools of thought, management of business organizations, in particular, generally use one of the following three approaches to motivate people to work[1], in the hope that they will be satisfied with their jobs.

The first and most recently developed approach is known as participative management. This approach is especially discernable in the writings such as The Human Side of Enterprise by Douglas M. McGregor (1957) (39). New Patterns of Management by Rensis Likert (1961) (31) and Creative Management by Norman R. F. Maier and John J. Hayes (1962) (33). This approach assumes that people can derive satisfaction from doing a good job per se. It is assumed that people can be ego-involved with their jobs, and that they will be emotionally committed to do their jobs as best as they can. Furthermore, they will take pride from being helpful in achieving the objectives of the company. There are three common elements of the different theories of participative management. The first is the integration of the planning and the doing, this is similar to the term, "management by objectives." In essence, the discretionary component of jobs is enlarged and enriched and the programmed component is reduced. People are given broad objectives and goals, and they are encouraged to decide for themselves how the goals and objectives should be

---

[1] A more detail treatment of how to conceptualize different approaches is found in Management and Motivation edited by Victor H. Vroom and Edward L. Deci. Reprinted 1973 by Penguin Books Ltd., Harmondsworth.

achieved. It is assumed here that if an individual has enough freedom in deciding how he will do his job, he will take the job as a kind of challenge to his abilities. In such a case, the individual will naturally try his utmost in carrying out the job.

The second basic element is the reduction of the use of authority as a means of control. The leadership style here is a democratic one. Thus the supervisor or manager plays only the role of a consultant rather than that of a dictator. In McGregor's words, the manager is "a teacher, a consultant, a colleague, but very rarely a boss" (39) in participative management. The third basic common element is that there is much more reliance on problem-solving by group discussion and decision. Ralph White and Ronald Lippett point out that there are four characteristics of such democratic leadership style in participate management and are listed as follows:

1. All policies are a matter of group discussion and decision, encouraged and assisted by the leader.

2. Activity perspective gained during discussion period. General steps to group goal sketched, and when technical advice was needed, the leader suggested two or more alternative procedures from which choice could be made.

3. The members were free to work with whomever they chose, and the division of tasks was left up to the group.

4. The leader was "objective" or "fact-minded" in his praise and criticism and tried to be a regular group member in spirit without doing too much of the work (57).

There is only little mention of compensation or promotion in discussions of participative management, and then

it is because compensation or incentive for effective performance is connected with the job or the individual's relationship with other members of his work group, rather than being under the organizational control. As a result, participative management is influential only at middle and top level management, especially in the research and development function. Maslow even speculated that the principles of participative management are primarily applicable in the developed countries and to those individuals with strong needs of self-actualization (36).

The second approach may be described as paternalistic in nature. The central assumption is that if individuals are satisfied with their jobs, they will be motivated to perform their jobs effectively. The organization here is viewed as a source of important rewards, and the rewards re unconditional, i.e., the rewards are given to the employees without demanding that the employees perform any differently than the job requires. The only qualification is membership in the organization. Rewards like group insurance, pension plans, provident fund, subsidized education, recreation activities, job security, highly predictable promotion patterns (like in most of the governmental organizations), and comfortable working conditions are unconditional and employed by the organizations as means to make their employees more satisfied with their jobs. Nevertheless, as pointed out by Arthur H. Brayfield and Walter H. Crockett (4), there is, in fact, no consistent or meaningful relationship between satisfied and effective employees. In other words, effective employees may be dissatified with their jobs, whereas satisfied employees may not necessarily be effective ones. Consequently, it may be concluded

from this that the paternalistic approach is not a very good way of motivating employees to perform their jobs effectively. This approach only emphasizes job satisfaction, which indirectly affects the turnover rate of employees, but does not significantly affect efficiency and productivity.

The third approach is that scientific management approach. This approach is developed mainly from Frederick W. Taylor's management principles (53). It is assumed that people will be motivated to work efficiently and effectively if rewards and penalties are tied together. Thus, very often, this approach is also known as "carrot-and-stick" management method. The rewards under this approach are conditional: in order to be qualified for a certain reward, the employees have to perform the job tasks as required by the management, and if they fail to do so, they will not be qualified for the reward.

Individual monetary incentives, which are the rewards under study of this thesis, are typical examples of such means. Furthermore, under this management approach, promotions are based on outstanding performance but not on seniority. Whereas merits are rewarded, misbehavior is penalized under this approach. Penalties may vary from warnings to dismissals. This approach is supported by a great deal of psychological research. The basic assumption is what the psychologists call the Law of Effect or the Principle of Reinforcement. It states that if an individual chooses a certain action, and this action is rewarded, he will most likely take the same action the next time. However, if he is penalized, it is less likely that he will take the same action

again. Therefore, despite the fact that there are some limitations[1] to this approach, it is still the most widely-used approach, especially in the industrial sector for blue collar workers.

---

[1] In the introduction to Management and Motivation, edited by Victor H. Vroom & Edward L. Deci, 1973 Penguin Books Ltd., Harmondsworth, it is pointed out that

> "...one of the limitations stems from the kinds of rewards and penalties which can be utilized by such an approach. It is particularly difficult for the external control system to encompass the higher order needs for esteem and self-actualization. In addition it is evident from the findings cited in Tannenbaum that certain rewards and penalties relevant to social needs are under the control of the informal organization, and these sanctions may work in opposition to the formal control system. A second limitation to the external control systems stems from its reliance on some reasonably objective method of measuring or assessing performance. This is clearly possible in many rank-and-file positions in production or in sales, but it becomes increasingly difficult as one moves to positions of a staff or managerial nature."

1.32 Job Satisfaction - Its Definition, Determinants, Effects and Measurements

In this section, the author will examine various definitions of job satisfaction, its determinants as seen by current behaviorists, its effects and various instruments for measuring job satisfaction.

1.32.1 What is Job Satisfaction?

"Job attitudes" and "morale" are sometimes used interchangeably with "job satisfaction" among some researchers and authors. However, some do make significant distinctions among them. Likert and Willits (32) define job morale as an individual's "mental attitude toward all features of his work and toward all of the people with whom he works." With more or less the same connotation, Guion (14) has defined it as "the extent to which the individual's needs are satisfied and the extent to which the individual perceives that satisfaction as stemming from his total job situation." Victor H. Vroom (56) states that "job satisfaction" and "job attitudes" are typically used interchangeably. Since both refer to the affective, i.e., emotional or psychological, orientation of the individual toward the work role he is occupying. Positive attitudes toward the job are conceptually equivalent to job satisfaction, and negative attitudes toward the job are equivalent to job dissatisfaction. As for "morale," he indicates that among the various meanings for the term, some are closely related to the other two concepts. In his case study of IBM, David Sirota (48) restricted the term

"morale" to items measuring "satisfaction" with the work environment.

Ramon Salinas (45) points out that the term "morale" has come to imply a group concept, a feeling of togetherness, as distinguished from individual job satisfaction. Michael Beer (2) also makes some distinctions between "morale" and "job satisfaction." He defines "morale" as a group phenomenon similar to "esprit de corps" or "group enthusiasm in the pursuit of a common goal," whereas "job satisfaction" is defined as "the attitude of workers toward the company, their job, their fellow workers and other psychological objects in the work environment." Gellerman (12) uses the term "satisfaction" to describe events that lead to subjective feelings of relief or pleasure which can be reported by the person who experiences them, but which cannot be observed directly by anyone else. From this, he draws the conclusion that a satisfier is something that makes people feel better than they would feel without it, but does not necessarily change their outward actions. Ivancevich and Donnelly (26) see job satisfaction as "the favorable viewpoint of the worker toward the work role he presently occupies." With some differences in dealing with the concept, Salinas (45) describes it as the "evaluation of one's job and the employing company as contributing suitably to the attainment of one's personal objectives."

1.32.2 Determinants of Job Satisfaction

As mentioned before, Herzberg and his colleagues conclude from his study of two hundred engineers and accountants that there are five factors which stand out as strong determinants of job

satisfaction (19). These five "satisfiers" or motivation needs are achievement, recognition, work itself, responsibility and advancement, with the last three having greater importance for a lasting change of attitudes. There is a common element among these five determinants: they all seem to describe man's relationship to what he does: his job content, achievement on a task, recognition for task achievement, the nature of the task, responsibility for a task and professional advancement or growth in task capability.

Vroom (56) lists six work role variables which have been thought to affect job satisfaction viz., supervision, the work group, job content, wages, promotional opportunities and hours of work. In a later essay, he identifies four classes of variables which appear to determine the attitude of a person towards his role in an organization and the probability that he will leave it, either permanently or temporarily. These four classes of variables are listed below:

1. The amounts of particular classes of outcomes such as pay, status, acceptance and influence, attained by the person as a consequence of his occupancy of that role.
2. The strength of the person's desire or aversion for outcomes in these classes.
3. The amounts of these outcomes believed by the person to be received by comparable others.
4. The amounts of these outcomes which the person expected to receive or has received at earlier points in time (55).

Vroom points out, then, that given an outcome or outcome class which is desired by the person, the evidence reviewed

suggests that the strength of his attraction towards his role, and the probability of his remaining in it increase as the amount of the outcome received increases; decreases as the amount of the outcome received by comparable others exceeds the amount he receives, and increases as the difference between the amount of the outcome received and the amount which he expected and/or has been accustomed to receiving becomes more positive or less negative. On the other hand, if the person is indifferent to the outcome or outcome class, these relationships may be expected to disappear; and if the person has an aversion to the outcome, the signs of the relationships may be expected to reverse.

1.32.3 The Possible Effects of Job Satisfaction

Ross and Zander (44), in a study of employee turnover, conclude that people who resign will be less satisfied than those who stay with regard to the five needs of affiliation, achievement, autonomy, recognition and fair evaluation. In other words, people whose needs are satisfied in their jobs will be less likely to leave their organizations.

Brayfield and Crockett (4), although they admit that dissatisfied workers tend to be absent more often and to quit the job at a higher rate than individuals who are satisfied with their work, raise doubt on the widespread belief that satisfied workers will necessarily be productive workers, and that successful efforts to increase work satisfaction will inevitably result in higher productivity. With more or less the same idea, Porter and Lawler (43) suggest that satisfaction or dissatisfaction with a

job may not affect the worker's performance directly; rather, it reflects the degree to which the company is rewarding him properly for what he is doing. They state that if the organization actively and visibly rewards its workers in proportion to their quality performance, then higher job satisfaction should be more closely related with higher performance.

Consequently, measures of job satisfaction have proven to be fairly good predictors of turnover and absenteeism. However, the relationship between job satisfaction and productivity has never been clearly determined.

Since it is not the purpose of this study to investigate the broader question of whether or not satisfied workers are also productive workers, the author will not explore this question. In the following study, the author will evaluate the impact of monetary incentive schemes on four of the possible indicators of job satisfaction:

1) productivity
2) labor turnover
3) absenteeism
4) labor unrest

The reader is reminded that the choice of these four indicators of job satisfaction are based entirely on the author's personal judgement, interest, and availability of data for analysis; they are evaluated only in their connection with monetary incentives.

1.32.4 The Importance of Money on Job Satisfaction

In this section, the author is going to consider in detail the importance of monetary rewards on job satisfaction, the central theme of this thesis.

As Gellerman (12) sees it, money is a symbol and that it is "worthless in itself, its value depends entirely on its ability to represent what something else can be exchanged for." Nevertheless, it derives a unique power as a motivator as its symbolizing power is not confined to market value. Gellerman's opinion is that money can symbolize almost every other value that people are motivated to pursue. He states that "...money can represent achievement, prestige, power or security; it can represent the cynic's only trustworthy companion or the idealist's devil."

The importance of monetary rewards on job satisfaction has been a controversial topic among the economists, the behaviorists and the industrial psychologists. Economists and many practising executives are inclined to say that the amount of monetary reward is of great importance in determining whether or not a worker is satisfied with his job. Taylor (53), although he mentions very little on the topic of job satisfaction, does points out that money is the most powerful motivator in productivity. From a series of experiments made upon workmen, he concludes that it is impossible, over any long period of time, to get workmen to work much harder than the average men around them, unless they are assured a large and permanent increase in their pay. He further states that plenty of workmen can be found who are willing to work at their highest speed, provided they are

given this liberal increase in wages. Herzberg and his colleagues (19), conceive of monetary rewards as an "extrinsic factor" or "hygiene," and that poor monetary rewards would lead to dissatisfaction. However, good monetary rewards may not necessarily lead to satisfaction. In another study, Herzberg and three of his other colleagues (18) found out that when workers were asked to rank different aspects of the work role in terms of importance, monetary rewards tended to be rated as less important than security, opportunity for advancement, and company and management, but more important than job content, supervision, the social aspects of the job, communication, working conditions, and benefits. However, when the workmen were asked to describe what makes them satisfied or dissatisfied with their jobs, monetary rewards were found to be the most frequent source of dissatisfaction, but the least frequent source of satisfaction. A series of studies of college graduates (54) and some other studies (1) (41) have shown that there is correlational significance between income level and job satisfaction.

Patchen (42), in a study of the relationship between monetary rewards and job satisfaction[1], advances a theory of

---

[1] Patchen made his study on the workers of an oil refinery. Each person was asked to

1) name two other persons whose wages were different from his own,
2) state whether each person named was earning more or less than he,
3) state the occupation of the comparison person,
4) state his satisfaction with the way the earnings compare, and
5) state his reasons for his satisfaction or dissatisfaction with the comparison.

social comparison with the assumption that individuals compare their own earning with those of others and evaluate differences or similarities in terms of their relative standing on dimensions believed to be the basis of pay (e.g., skill, seniority, and education). For example, if an individual compares himself to someone who is earning more, and who is superior on dimensions related to pay, or to his counterpart who is earning the same and is similar on dimensions related to pay, the comparison will objectively consonant and satisfaction with the job is expected. However, if the individual finds that someone is earning more but is similar in his standing on dimensions related to pay, dissatisfaction on the part of the comparer is expected, and the comparison is said to be objectively dissonant. Similarly, if he finds that someone is earning the same as he but is inferior in his standing on dimensions related to pay, the same result will occur.

In a discussion of money for motivation, Gellerman (12) points out that "money can motivate-- that is, influence action-- only when the <u>increment</u> that is in prospect is large enough relative to existing income." According to him, then, those salary increases, bonuses, profit-sharing plans and incentive pay plans which do not provide an increment large enough will only motivate the purely passive action of staying in the organization. Any kind of non-routine performance, such as extra effort or extra creativity have to be motivated by an increment which is large enough relative to existing income. However, Gellerman has not indicated what can be considered "large enough relative

to existing income." In another book, Gellerman states that "the money motive varies from person to person as a function of his life history." He further points out that "most younger people who have not yet satisfied their capital needs and some people whose earnings potential is too low to ever satisfy their capital needs are primarily money-motivated," (11). This interpretation is in fact very close to Maslow's need theory (36) that an individual's needs develop in a sequence from "lower order needs," i.e., physiological needs, safety and security needs, to "higher order needs," i.e., social-affection needs, esteem needs and self-realization needs.

1.32.5 Measurements of Job Satisfaction

Hoppock (25) is perhaps the earliest behaviorist to apply a systematic instrument to measure job satisfaction. Table 1.32.5.1 is the revised Hoppock scale used in a survey of job satisfaction in New Hope, Pennsylvania, in 1933. There were four scales altogether. Scale Values ranged from 1 to 7 with the larger numbers indicating satisfaction and the smaller numbers indicating job dissatisfaction. Calculation of job satisfaction indices was based upon responses chosen from the four scales, and a distribution of job satisfaction indices was composed from the survey of 309 workers. Commenting on the instruments for measuring job satisfaction, Dunn and Stephens (8) indicate that

> "the Hoppock scales are attitude scales. An attitude scale elicits from an individual an expression of feeling toward an object of reference. The attitude scale is used directly with an individual in order to obtain his expression of his feelings toward

the object of reference. Such a scale permits a quantification of this expression of feeling. Hoppock's approach, then, to indexing job satisfaction was to measure employee attitudes, and then from these measures one could make judgements, or inferences, about an employee's feelings of job satisfaction."

Figure 1.32.5.1 Hoppock Job Satisfaction Questionnaire

JOB SATISFACTION BLANK NO. 5

BY

ROBERT HOPPOCK

You are asked to help in a scientific study by answering the questions in this blank. Neither your employer nor any of your associates will be allowed to see your answers. Your replies will be added to those of many other people, and only the group totals will be published. Do not put your name on the paper. Your answers will be worthless unless they are perfectly frank and truthful. If for any reason you prefer not to tell exactly how you feel about your job, please return the blank unmarked.

Choose the ONE of the following statements which best tells how well you like your job. Place a check mark (✓) in front of that statement:

1 .... I hate it.
2 .... I dislike it.
3 .... I don't like it.
4 .... I am indifferent to it.
5 .... I like it.
6 .... I am enthusiastic about it.
7 .... I love it.

Check one of the following to show HOW MUCH OF THE TIME you feel satisfied with your job:

8 .... All of the time.
9 .... Most of the time.
10 .... A good deal of the time.
11 .... About half of the time.
12 .... Occasionally.
13 .... Seldom.
14 .... Never.

Check the ONE of the following which best tells how you feel about changing your job:

15 .... I would quit this job at once if I could get anything else to do.
16 .... I would take almost any other job in which I could earn as much as I am earning now.
17 .... I would like to change both my job and my occupation.
18 .... I would like to exchange my present job for another job in the same line of work.
19 .... I am not eager to change my job, but I would do so if I could get a better job.
20 .... I cannot think of any jobs for which I would exchange mine.
21 .... I would not exchange my job for any other.

If you could have your choice of all the jobs in the world, which would you choose? (Check one):

22 .... Your present job.
23 .... Another job in the same occupation.
24 .... A job in another occupation.

Check one of the following to show how you you think you compare with other people:

25 .... No one likes his job better than I like mine.
26 .... I like my job much better than most people like theirs.
27 .... I like my job better than most people like theirs.
28 .... I like my job about as well as most people like theirs.
29 .... I dislike my job more than most people dislike theirs.
30 .... I dislike my job much more than most people dislike theirs.
31 .... No one dislikes his job more than I dislike mine.

Which gives you more satisfaction? (Check one):

32 .... Your job.
33 .... The things you do in your spare time.
34 Have you ever thought seriously about changing your present job? .....
35 Have you ever declined an opportunity to change your present job? .....
36 Are your feelings today a true sample of the way you usually feel about your job? .....

The following questions need not be answered if they would enable anyone to know that this paper is yours.

What is your job? (For example, Carpenter)

37 .....

38 Age at last birthday .....

39 Sex .....

40 Date .....

41 On the line below, place five check marks to show how well satisfied you were with your last five jobs. Use a separate check mark for each job. You may place each mark anywhere on the line, either above one of the statements or between two of them. If you have had less than five jobs, use only as many check marks as you have had jobs. Draw a circle around the check mark which indicates your present job.

Completely Dissatisfied	More dissatisfied than satisfied	About Half and Half	More satisfied than dissatisfied	Completely Satisfied

There was little innovation on the measurement of job satisfaction since Hoppock's first attempt, until Brayfield and Rothe presented their new instrument in 1951. The following is the Brayfield-Rothe Questionnaire of Job Satisfaction reported in the Journal of Applied Psychology (5).

Fig. 1.32.5.2 Brayfield-Rothe Questionnaire of Job Satisfaction

Some jobs are more interesting and satisfying than others. We want to know how people feel about different jobs. You are to cross out the phrase below each statement which best describes how you feel about your present job. There are no right or wrong answers. We should like your honest opinion on each one of the statements. Work out the sample item numbered (0).

0. There are some conditions concerning my job that could be improved.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
1. My job is like a hobby to me
   Strongly Agree Agree Undecided Disagree Strongly Disagree
2. My job is usually interesting enough to keep me from getting bored.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
3. It seems that my friends are more interested in their jobs.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
4. I consider my job rather unpleasant.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
5. I enjoy my work more than my leisure time.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
6. I am often bored with my job.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
7. I feel fairly well satisfied with my present job.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
8. Most of the time I have to force myself to go to work.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
9. I am satisfied with my job for the time being.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
10. I feel that my job is no more interesting than any other I could get.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
11. I definitely dislike my work.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
12. I feel that I am happier in my work than most other people.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
13. Most days I am enthusiastic about my work.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
14. Each day of work seems like it will never end
   Strongly Agree Agree Undecided Disagree Strongly Disagree
15. I like my job better than the average worker does.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
16. My job is pretty uninteresting.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
17. I find real enjoyment in my work.
   Strongly Agree Agree Undecided Disagree Strongly Disagree
18. I am disappointed that I ever took this job.
   Strongly Agree Agree Undecided Disagree Strongly Disagree

Source: A. H. Brayfield and H. F. Rothe, "An Index of Job Satisfaction," *Journal of Applied Psychology*, Vol. 35 (1951), p. 309.

In setting up their job satisfaction questionnaire, these authors listed the following points which they considered to be the "desirable attributes of an attitude scale designed to provide a useful index of job satisfaction."

1. It should give an index to "over-all" job satisfaction rather than to specific aspects of the job situation.
2. It should be applicable to a wide variety of jobs.
3. It should be sensitive to variation in attitude.
4. The items should be of such a nature (interesting, realistic, and varied) that the scale would evoke cooperation from both management and employees.
5. It should yield a reliable index.
6. It should yield a valid index.
7. It should be brief and easily scored.

Dunn and Stephens (8) indicate that from the viewpoint of operational use, the above criteria are very important; however, point 1 of the list no longer seems to be as important now as it was once thought to be.

> "In fact, from an operational viewpoint, just the opposite seems be the case. The specific aspects of job satisfaction, rather than an overall measure, are the important feelings that should be indexed (8)."

A "facial" approach was developed by the Employee Research Section of General Motors Corporation (13). It is a projective type of attitude questionnaire. For each face scale, there are six values, with a deep scowl indicating extremely

dissatisfied and a broad smile indicating extremely satisfied (see Figure 1.32.5.3). It may be used for obtaining measures of different aspects of job satisfaction, e.g., work, pay, supervision etc., or it may be used for obtaining a summary rating of job satisfaction.

People have very varied valuations on this projective type of attitude questionnaire[1]. As a matter of fact, General

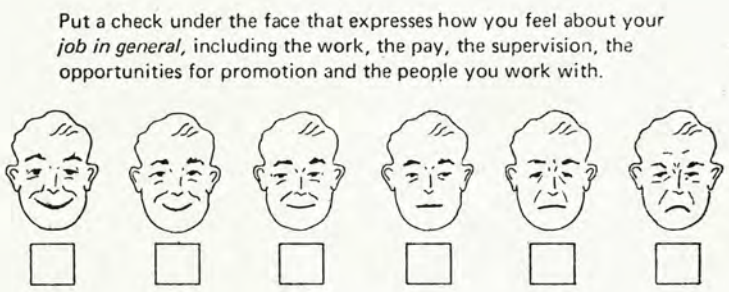
---

[1] Theodore Kunin (29) is in favor of this projective technique:

> "Most attitude surveys utilize words as the vehicles by which attitudes are expressed. The items may require that the employee decide which of a series of phrases best expresses his feelings about a designated topic or, alternatively, whether or not a given sentence is indicative of his attitude. It is felt that a certain amount of distortion is an invariable result of this process which necessitates the translation of one man's feelings into another man's words. Error creeps in, both in the interpretation of the meaning of the items by the respondent, and in the selection of the item which most accurately indicates the true feelings of the respondent on the topic in question. This is particularly difficult for persons of low verbal ability to achieve with any accuracy."
>
> In a letter written to J. D. Dunn, Mr. Richard D., Boynton, Employee Research Section, 8-206 General Motors Building, Detroit, Mich. 48202 indicated that:
>
> "We found several problems with the faces. There were too many employees who felt they were being treated in a childish fashion when they were asked to answer items on the faces scale instead of on a word scale. They also seemed to feel uncertain about how their face responses would be interpreted. Another problem was the lack of face validity, ...which the faces scale had for many members of management. Their acceptance of interpretations of and the significance of this kind of response was much less than when worded response scales were used (8)."

Motors does not use the faces scale any more and the Corporation prefers to tailor questionnaires to the particular units being surveyed instead of using a standardized form.

Fig. 1.32.5.3 General Motors Faces Scale



Source: General Motors Corporation

The SRA Employee Inventory (46) and the Job Descriptive Index (JDI) (49) are the most recent tools for measuring job satisfaction[1]. Instead of surveying the general satisfaction of the workers on their jobs, the SRA Employee Inventory and JDI have focused more upon the five following job satisfaction factors:

(1) the work itself
(2) the pay
(3) the promotion opportunities
(4) the relation with supervision
(5) the relation with other employees (8).

---

[1] These are copyrighted but can be obtained by writing to SRA (46) and Dr. Patrica Cain Smith (49) for information on how these instruments are administered, scored, and interpreted.

2.0 INTRODUCTION TO CASE EXAMPLE

2.1 The Hong Kong Environment and Brief History of the Development of the Textile Industry

Hong Kong was ceded to the United Kingdom by the Treaty of Nanking signed in 1842, hence it became a British Crown Colony. At that time, Hong Kong was no more than a barren island with only a very small number of fishermen and some farmers with their families living in the valleys. Because of the political turmoils which have occurred in Mainland China during the past hundred years, more and more people have moved to Hong Kong, with the result that Hong Kong's population has reached more than four million. The takeover of Mainland China by the Communists in 1949 brought the biggest number of refugees to Hong Kong. During the period from 1947 to 1953, several hundred industrialists and businessmen from Shanghai, which was the biggest commercial center at that time, and other cities of Mainland China, came to Hong Kong with their capital, business know-how and business connections. Before the arrival of such industrialists, Hong Kong was no more than an entrepot port which served to distribute some of the Chinese goods to Southeast Asia and the western world. However, with the sudden influx of capital, business know-how, business connections and cheap labor, Hong Kong gradually developed itself into an industrial city[1]. Of all the industries in Hong Kong, the textile industry

---

[1] A detailed treatment of Hong Kong's industrial environment is available in: Dr. John L. Espy, "Hong Kong as an Environment for Industry" The Chung Chi Journal Vol. 10, Numbers 1 and 2 (October, 1971)

is the foremost and most important industry. More than one-third of the Shanghainess businessmen who came to Hong Kong during the period 1947 to 1953 were formerly engaged in the textile business. Some of them, who somewhat foresaw the political change, began to transfer some of their capital out of China by placing orders with British manufacturers of textile machinery, with delivery to be made in Hong Kong in early 1947.

> "The plausible explanation for the rise of the new industry is that a group of textile industrialists, largely from Shanghai and its vicinity, who happened to have newly-ordered spinning machinery on its way to northern ports, had conveniently decided to divert them to Hongkong as the tide of spreading turmoil on the mainland inexorably rolled southward. In some cases the switching of the machinery to Hongkong is said to have been made because of difficulties in obtaining import permits required by Chinese Customs authorities (23)."

In a case prepared by Dr. John L. Espy, the General Manager of the case also reported more or less the same story:

> "In February of 1947, my father was informed by representatives of China's Nationalist government that the importation of his order of textile machinery would not be allowed because of acute shortage of foreign exchange. My father had sufficient foreign exchange on deposit outside of China, but he couldn't reveal this to the government people. After considerable thought, he cabled the British manufacturer to ship his order to Hong Kong rather than to Shanghai. Late in 1947 his machinery arrived in Hong Kong and was placed in storage in the Hwa Fung Godown, over in Kowloon (9)."

Before this, some investigations had been made on the possibility of setting up the spinning industry in Hong Kong; and at one time it was considered just non-practicable to do so. The early spinning industrialists saw several serious drawbacks

to setting up the industry in Hong Kong. The lack of skilled labor, possible inadequacy of power, and limitations of fresh water[1] were some of the technical problems. There were few natural resources in the Colony and it was quite far away from the cotton fields. Furthermore, the Colony was (is) a free port with seemingly little or no domestic market. Because of Hong Kong's being a free port, the would-be spinning industrialists would have to compete with all possible sellers in the world. Even more important, under the laissez-faire economic policy, any infant industries would have to face vigorous competition, with no governmental protection. Nevertheless, despite all these difficulties, the Shanghainess industrialists started their ventures in Hong Kong in 1947. So, we can see that without the

---

[1] Hong Kong had to rely completely on rainwater which was stored in reservoirs. At that time, there was only a few number of reservoirs and the supply of fresh water during winter was limited. The first time for the Hong Kong Government to admit that there was a serious shortage of fresh water supply was found in the Hong Kong Annual Report, 1953:

> "As there are no large rivers or underground sources of water in the Colony, the population is entirely dependent for its water supply on the collection of rainwater. There are altogether thirteen impounding reservoirs which store the water from the Colony's many uplands and which are usually filled during the summer months when the south-west monsoon blows. As the rainfall for the rest of the year is low, a very large amount of storage would be necessary to provide a 24-hour supply of water throughout the dry season for Hong Kong's big population. The not inconsiderable existing storage capacity of the reservoirs, 5,970 million gallons, is inadequate to meet the demand and serious annual water shortages, during which water is turned off for a number of hours every day, are experienced (21)."

civil wars in Mainland China at that time, or without the import difficulties, there would never have been such an industry in Hong Kong.

In late 1947, South China Textile Company Limited began its operation with the installation of 5,000 spindles. In the following year, five more mills began producing yarns, viz., Hong Kong Spinners Limited, known as Peninsula Spinners Company prior to reorganization Wyler Textiles Limited, Nanyang Cotton Mill Limited, Kowloon Textile Industries Limited, and South Sea Textile Manufacturing Company Limited, which is the firm under study.

More mills were set up during the period of 1949 to 1954, and these pioneer mills laid the groundwork for the textile industry of Hong Kong and steered the Colony towards industrialization. In commenting on the early growth of the spinning industry in Hong Kong, L. C. Chung pointed out that

> "In one way Hongkong is lucky in that it only started to build a modern spinning industry in 1947, with almost brand-new equipment and completely new premises. In the 1950s Hong Kong textile industrialists spoke proudly of their industry as a compact organization with exceptionally high efficiency, highly automatic machinery and equipment and a good record of spindle hours worked and of machinery utilisation (27)."

The weaving sector also began production and was advancing rapidly. By the end of 1954, there were 6,000 automatic looms with 40 per cent of these modern looms installed in the weaving departments of the spinning mills. There were approximately 300,000 spindles in operation with an annual production of more

than 100 million pounds[1]. In the spring of 1955, recognizing the need for such an organization, the Hongkong Cotton Spinners Association was set up, so that members could meet regularly to discuss questions of common interest. The period 1947 - 1955 could be regarded as the first stage of growth of the Hong Kong textile industry. In fact, the growth was so rapid and astounding that it had already aroused the concern and apprehension of the foreign counterparts, especially the English textile industrialists[2].

Beginning in 1958, negotiations were held often between the Hong Kong and Lancashire textile industrialists on setting up a voluntary agreement for exports of Hong Kong textiles to England. The English Government had refrained from taking any restrictive measures on its own initiative, but invited the exporting countries like Hong Kong, India, and Pakistan to make some voluntary arrangements. It was finally agreed that the Hong Kong textile industry should offer a Voluntary Undertaking for

---

[1] Unless otherwise stated, all data in this section came from The Hong Kong Cotton Spinners Association.

[2] This was evidenced by a speech delivered by C. Henniker-Heaton, Director of the Federation of Master Cotton Spinners, Manchester, at a reception-dinner party held by the Hongkong Cotton Spinners Association during his Far East tour in May 1955. After admitting that during 1954 Lancashire's cotton textile export trade had steadily deteriorated, due to cheap imports from Japan and India, he further pointed out that "imports from Hong Kong which started as a small trickle at the rate of 5 million square yards per annum by early 1955 had increased to a rate of 64 million square yards per annum, much of which was retained in England." and he concluded that "England might eventually have to do something to preserve sectors of its industry from virtual extinction." Perhaps this was the first hint that some trade barriers would be set for Hong Kong textile exports.

the exports of textile goods to England[1]. By voluntary, it was to be unilateral, without quid pro quo and without being conditioned on whether, when or how India and Pakistan acted in the arrangement. This Undertaking came into effect in February 1959 and was the first quota set for export of Hong Kong textile goods to an importing country. The sole purpose of this Undertaking was to give a breathing space of three years to the Lancashire textile industry to reorganize and modernize itself with the support of substantial subventions from the British Government.

In 1961, the Cotton Advisory Board was established with the Director of Commerce and Industry of the Hong Kong Government as ex officio Chairman. Other members of the Board consists of representatives from various sectors of the textile industry. The establishment of the Board was mile-stone in Hong Kong textile history in that any future quota negotiations would become an inter-government affair instead of industry-to-industry business. Thus the renewal and extension of the 1959 Voluntary Undertaking was carried out between the Hong Kong and British Governments.

In the meantime, both the USA and Canadian Governments also showed concern for protecting their own textile industries

---

[1] A ceiling figure of 115 million square yards of cotton cloth for retention in the United Kingdom was agreed upon but cotton yarn, various knitwear and gloves were not subject to restraint, nor were any limits imposed on exports of made-up goods of cotton manufactures, assessed then at a national figure equivalent to 46 million square yards. Any shortfall or over-shipment in the cloth quota in any year would be given allowance of an increase or reduction in the yardage to be shipped in the form of made-ups in the following year, and vice versa. The Hong Kong government was given the power of administration within the terms of the Undertaking (23).

and tried to limit the import of textile goods from Hong Kong. As a result of this, a Short-Term Arrangement was set in 1961 with the aim of bringing about orderly international trade in cotton textiles. This was followed by the Long-Term Arrangement which went into effect on October 1, 1962, covering a period of five years ending in September 1967.

For the period of 1955 to 1962, we see that the Hong Kong textile industry, despite the fact it was still growing rather rapidly, had to struggle all the time with all sorts of trade restrictions. To counteract the forces from trade restrictions, the Hong Kong textile industrialists made a great effort at improving efficiency in production and began to think of expanding sales by diversification of both products and markets.

The spinning of cotton and man-made fibre blended yarns began to take place in the early 1960s. By the middle of the sixties, the spindles in local mills spinning blended yarns accounted for about of 5 per cent of the entire spinning capacity and the production of blended yarns had growing importance[1].

Efforts at diversification of markets were made. Spcial textile trade missions were sent under the auspices of the Hong Kong Commerce and Industry Department to visit a number of North African and Near-East countries to develop new markets for Hong Kong textile goods.

---

[1] The growing importance of blended yarns can be shown by two important changes: the first was the organizational change in the Cotton Spinners Association in 1967. The Articles of the Association were amended with the object of enabling mills spinning only man-made fibre yarns to be qualified for membership. The second was that the Cotton Advisory Board was changed by the Hong Kong Government to be known as Textile Advisory Board so that questions arose from man-made fibre products were also included.

From the following table, we can see that the period of diversification from 1962 to 1969 was very successful:

Table 2.1.: Increase of Hong Kong Textile Exports from 1962 to 1969 (in million HK$)

Categories	1962	1969	% Increase
Textile yarn and thread	$81.7	$113.7	+39%
Cotton fabrics woven	$370.4	$685.2	+85%
Madeup articles chiefly of textile materials	$100.9	$185.3	+83%
Clothing (except fur clothing)	$1,147.0	$3,826.3	+233%

Source: Hong Kong Trade Statistics

As the former chief markets of Hong Kong textile products, England and the USA, only allowed an annual increment of 1 per cent and 5 per cent respectively, the increase in trade was thus mainly due to the advancement of trade relationships between the new markets such as the European Economic Community (EEC) countries, Canada and Australia.

The year 1967 was considered an acid test for the future political stability of Hong Kong by most of the Critics[1].

---

[1] In response to the Cultural Revolution in Mainland China at that time, the Hong Kong left-wing agitators took the advantage of disputes on wages between employers and employees and to stir strikes and organize demonstrations against the Hong Kong Government. They set fires, attacked the police and planted bombs in public places. Many transport vehicles were burned and several people were killed during the riots. But as they could not get any real support from the authorities in Mainland China, the riots were soon suppressed.

> The maturity of the (textile) industry was particularly evident during the period of intermittent riots and disturbances earlier in 1967, since its export performance was not seriously affected. The industry has in fact displayed remarkable resource and resilience in dealing with emergencies fortunately, as it is the main pillar of Hong Kong's economy. It suffered no physical damage during the rioting period, and with the cooperation of management and worker, it maintains the security necessary to protect its production (28).

However, in 1970 as well, Hong Kong's textile industry was faced with yet new problems and challenges. These new problems and challenges were reflected in the Chairman's Statements of the South Sea Textile Manufacturing Company Limited which will be reported in the following section of this thesis.

Ever since its beginning in 1947, the textile industry[1] has been the greatest pillar of the Hong Kong economy. It has been the biggest domestic industry in terms of export value and employment in Hong Kong. In Appendix C, there are seven tables which show the development of the spinning and weaving industry in Hong Kong.

---

[1] "Textiles consist of cotton spinning, cotton weaving (two and three shifts), cotton knitting, and garments (24)."

2.2. History of the Firm Under Study--South Sea Textile Manufacturing Company Limited

The South Sea Textile Manufacturing Company Limited (henceforth abbreviated as SSTMC in this study) was set up in 1948 under the direction of the late P.Y. Tang,[1] one of the Shanghainese textile industrialists who foresaw the political change in Mainland China. In fact, he came to Hong Kong in early 1947 to study the possibility of setting up a textile factory in the Colony. It proved that he was far-sighted enough to transfer part of his capital and a number of his trained staff to Hong Kong just a year before the takeover of Mainland China by the Communists. Production began in October 1948 with 5,040 spindles. The Weaving Department

---

[1] "His (P.Y. Tang) educational background was practical and streamlined. Having received his preparatory education in Tsing Hua College, he studied at the Massachusetts Institute of Techonology after picking up the rudiments of textile technology in Lowell Textile School. He thus became well prepared upon his return to Wusih, his native city, to take over the management of one of the established cotton spinning mills. His pluck and vigor soon led him to extend his activities to flour and cement industries. But the most active part of his work centered in cotton spinning. His close collaboration with the outstanding millowners while in Shanghai in the activities of the 3-province cotton spinning federation as a top organizer and director was well known."

"Against this background he became alert to the prospect of creating a new spinning mill in Hong Kong in face of the rising turbulence on the mainland in 1947-48. This mill, the South Sea Textile Manufacturing Company Limited turned out to be a well-planned and very successful undertaking. It virtually became one of the show-windows for visitors to see with respect to Hongkong's textile development."

Extracts from the Biographical Sketches of the late Mr. P.Y. Tang, C.B.E. LL.D., J.P. (1898-1971) contained in Twenty Five Years of the Hong Kong Cotton Spinning Industry, compiled and published by the Hong Kong Cotton Spinners Association, June 1973.

was set up in 1950 with 140 automatic looms. The company is one of the few pioneers in Hong Kong's modern spinning and weaving industry. At present, the company owns at 9½ Miles, Tsuenwan, Kowloon, a piece of industrial land of 789,671 square feet, on which stands a factory of 774,166 square feet and operates 58,784 Ring Spindles, 5,912 Twisting Spindles and 884 Automatic Looms. In terms of ring spindles, it is the second largest in Hong Kong, and in terms of automatic looms, it is the largest. It is the largest spinning and weaving mill under one single roof in the Colony. The mill employs 1,570 male workers and 910 female workers. Table 2.2.1 shows the number of spindles and automatic looms in operation of SSTMC from 1948 to 1973. Table 2.2.2 shows the yearly output of cotton yarn and cotton piecegoods from 1948 to 1973, whereas Table 2.2.3 shows the total sales and net profit of the company from 1964, (the year during which the company went public) up to the end of 1973.

Products manufactured by the company include cotton yarn, cotton cloth, terylene and other mixed synthetic fibre textiles. Most of these products are marketed overseas bearing the trade marks of "flying Fish", "Goddess of Mercy" and "Squirrel". To diversify its activities, the company formed a subsidiary, Tristate Trading and Investment Company Limited, in March 1970, which operates the Tristate Industrial Company garment factories in Hong Kong and Taiwan and produces various types of garments for export. In November 1970 the company contracted with Kurary Company Limited of Osaka, a famous Japanese manufacturer of man-made fibres, to establish the Nan Lee Textile Company Limited in Hong Kong for the production of knitted man-made fibre fabrics. Nan Lee's main

business is the texturizing, knitting, dyeing and finishing of polyester filaments and textile products. A specially designed plant of 150,000 square feet was constructed by South Sea Textile for lease to Nan Lee, and was completed in late 1973.

The company went public in 1964 and up to the present, a controlling number of shares is still owned by the Tang Family. With the death of P.Y. Tang, founder and President of the Board of Directors of the company in 1971, Mr. Jack C. Tang, son of P.Y. Tang, succeeded his father as President of the Board. Despite the fact that the President of the Board is a member of the Tang Family and the family still holds a controlling interest, none of the other directors nor any of the management comes from the family. Nevertheless, most of the high-level management, which includes two of the practising Director-managers, namely the Sales Manager and the Mill Manager are Shanghainese and came with P.Y. Tang in the late forties. The current President of the Board, Mr. Jack c. Tang, was educated in the United States, receiving a degree in chemical engineering from Massachussetts Institute of Technology and a Master's Degree of Business Administration from Harvard Business School. Most of the high-level management, as mentioned before, are Shanghainese and have worked in the mill for more than twenty-five years. The middle and supervisory management are all recruited in Hong Kong. A few of them came from Taiwan with degrees in textile manufacturing. Most of them are holders of the Higher Diploma Course in Textile Technology from the Hong Kong Polytechnic.

TABLE 2.2.1

NUMBER OF SPINDLES AND AUTOMATIC LOOMS IN OPERATION OF SOUTH SEA TEXTILE MANUFACTURING COMPANY LIMITED

YEAR	SPINDLES	AUTOMATIC LOOMS
1948	5,040	
1949	10,500	
1950	10,500	140
1951	10,500	306
1952	10,500	338
1953	16,100	338
1954	27,780	494
1955	27,780	494
1956	27,780	624
1957	34,900	650
1958	34,900	650
1959	37,300	624
1960	37,300	656
1961	45,300	904
1962	45,300	798
1963	45,300	826
1964	53,300	926
1965	53,300	928
1966	53,300	904
1967	53,300	904
1968	53,300	915
1969	56,600	915
1970	57,120	915
1971	58,784	889
1972	58,784	884
1973	58,784	884

Source: Data furnished by the Production Department of the Company.

TABLE 2.2.2

YEARLY OUTPUT OF SOUTH SEA TEXTILE MANUFACTURING COMPANY LIMITED

YEAR	SPINNING DEPARTMENT	WEAVING DEPARTMENT
	COTTON YARN*	COTTON PIECEGOODS**
1948	103,400***	
1949	2,241,600	
1950	4,127,200	
1951	4,339,200	
1952	4,556,400	1,867,666
1953	4,564,000	7,080,598
1954	9,535,200	10,835,713
1955	12,462,000	14,798,331
1956	13,914,800	16,955,403
1957	14,534,400	19,834,780
1958	15,316,400	19,180,443
1959	15,365,200	21,818,000
1960	16,761,200	23,475,926
1961	17,596,380	27,471,158
1962	20,238,000	24,958,000
1963	21,430,000	34,535,000
1964	21,723,600	38,845,495
1965	25,777,000	40,964,000
1966	26,589,000	42,725,000
1967	26,113,000	44,194,000
1968	25,530,000	47,229,000
1969	27,832,000	45,229,000
1970	28,800,000	49,200,000
1971	28,800,000	48,000,000
1972	28,800,000	48,000,000
1973	29,000,000	51,979,000

* Converted to equivalent of 20 counts, approximate number of pounds

** Approximate number of square yards, average picks at 60

*** From October 14, 1948 to December 31, 1948

Source: Data furnished by the Production Planning Department of the Company.

TABLE 2.2.3

TOTAL SALES AND NET PROFIT OF
SOUTH SEA TEXTILE MANUFACTURING COMPANY LIMITED

YEAR	TOTAL SALES HK$	NET PROFIT HK$
1964	56,596,000	5,045,022
1965	64,085,000	3,624,000
1966	67,974,000	3,530,000
1967	69,112,000	5,000,000
1968	77,392,000	6,088,000
1969	82,509,000	7,461,000
1970	83,022,000	5,890,000
1971	80,947,000	8,839,000+
1972	94,904,000	3,392,000
1973	130,000,000	19,588,013

+ the net trading profit for the year was only HK$3,022,000 with the balance representing a surplus resulting from the sale of the Company's unquoted investment in March 1971 and income from the Company's other investment, less provision for losses of one subsidiary company.

Source: Annual Reports of South Sea Textile Manufacturing Company Limited 1964 to 1973.

2.3 History of Incentive Schemes at SSTMC

At the very start of the factory in 1948 and in the early 1950s, there was an abundant supply of labor. During the 1950s, a high rate of immigration from mainland China brought thousands of people into Hongkong. Table 2.3.1 shows the population of Hongkong, the number of registered industrial establishments, and the number of employees in registered industrial establishments in Hongkong from 1947 to 1973. Most of the immigrants came to Hongkong with only a few cents in their pockets, and they were very eager to get any jobs at which could earn a living. As the Mill Personnel Manager of SSTMC recalls, the factory could pick the better educated and stronger-built applicants as their machine operators. He even inspected the applicants' fingers to see if there were any cigarette stains on the fingers in order to avoid recruiting any frequent smokers. This is because fire is always the greatest danger to textile mills. However, with the immigration controls in 1962, the number of immigrants from Mainland China dropped dramatically and labor supply became less and less abundant. As a result of the growing shortage of labor supply, wages for industrial workers began to climb. In order to keep enough labor in the industry and to raise productivity, the textile industry began to offer a number of incentives to its workers. Incentive schemes in the textile industry are especially important because of the three shift systems and the comparatively unfavorable working environments in textile mills. The workshop is noisy and full of small flying cotton fibres, in contrast to the air-conditioned production areas of the electronics industry, for example. Workshop discipline in textile mills is strict, while workers in garment factories can listen to radios while working. Moreover, the workers have to stand for the full eight-hour shift.

BLE 2.3.1

POPULATION, REGISTERED INDUSTRIAL ESTABLISHMENTS, AND EMPLOYEES IN REGISTERED INDUSTRIAL ESTABLISHMENTS, 1947-73

AR	ESTIMATED TOTAL POPULATION (MID-YEAR)	NUMBER OF REGISTERED INDUSTRIAL ESTABLISHMENTS (YEAR-END)	NUMBER OF EMPLOYEES IN REGISTERED INDUSTRIAL ESTABLISHMENTS (YEAR-END)	AS A % OF THE TOTAL POPULATION
947	1,750,000	970	51,300	2.9%
948	1,800,000	1,140	60,600	3.3
949	1,857,000	1,280	65,300	3.5
950	2,237,000	1,520	89,500	3.9
951	2,015,000	1,790	93,800	4.6
952	2,125,000	1,990	92,800	4.3
953	2,242,000	2,130	100,900	4.4
954	2,364,900	2,300	106,300	4.5
955	2,490,400	2,560	118,600	4.7
956	2,614,600	3,140	138,800	5.2
957	2,736,300	3,290	148,100	5.4
958	2,854,100	3,760	168,100	5.8
959	2,967,400	4,860	189,100	6.3
960	3,075,300	5,130	229,000	7.4
961	3,174,700	5,980	230,000	7.2
962	3,346,600	6,500	278,600	8.3
963	3,504,000	7,460	302,200	8.6
964	3,594,000	8,470	353,600	9.8
965	3,692,000	8,490	357,500	9.6
966	3,732,000	9,300	376,700	10.0
967	3,834,000	10,630	432,000	11.2
968	3,802,700	14,754	561,563	14.8
969	3,863,900	17,239	589,505	15.3
970	3,959,000	19,402	605,367	15.3
971	4,045,300	21,386	619,684	15.3
972	4,078,400	21,386	619,684	15.2
973	4,159,900	21,610	619,237	14.9

Source: Hong Kong Government, Census and Statistics Department, Hong Kong Statistics 1947-1967 (Hong Kong, 1967) for figures from 1947 to 1967, and Hong Kong Monthly Digest of Statistics, December 1973, for figures from 1968-1973.

Incentive schemes offered by SSTMC can be classified as monetary and non-monetary. Non-monetary incentives include such things as welfare benefits, social and sports facilities, hostel and medical services, transportation, uniforms and working gowns, canteens and educational opportunities. These things cost the company money, but they are non-monetary in the sense that the workers do not receive any actual cash payment. Monetary incentives, on the other hand, involve actual cash payments and are paid in addition to the basic wages and salaries.

For the six monetary incentive schemes under study, three were introduced as soon as the firm began its operation in Hong Kong, namely, Extra Pay for Not Taking More than One 4-hour Leave, Over-Time Pay, and Extra Pay For Working on Rest Days. The Annual Bonus was implemented in 1949. Most of the other individual incentive schemes in SSTMC were introduced in late 1960s as the labor supply was getting less and less abundant. From Table 2.3.1, the reader can see that despite the fact that the population of Hong Kong was growing rather rapidly, the number of registered industrial establishments and the number of employees in registered industrial establishment was growing even faster, this made the labor supply for industrial concerns less abundant. In order to attract more workers to the spinning and weaving industry, the management had to offer them higher wages and more appealing monetary incentive schemes. Full Attendance Pay was one such scheme and was introduced at SSTMC in 1969. At the initial stage, the Full Attendance Pay was rewarded by a luck draw at the end of each payment period. For these workers who had taken no leave, each was given a raffle ticket and one first prize, HK$300 paid in cash, two

second prizes, HK$200 each and five third prizes, HK$100 each were rewarded to those workers who were drawn. This was practised for half a year and was replaced by the present system. The Extra Pay for Night Shift was introduced in 1963 with extra pay of $0.5 per person per shift for those machine-operators who took the night shift, i.e., from 11 p.m. to 7 a.m. next morning.[1]

Ever since the introduction of monetary incentive schemes, they have been a fixed portion of the labor cost. The monetary incentives and allowances paid by SSTMC constitute from 22 per cent to as much as 36 per cent of the total wages for workers. Table 2.3.2 shows the total wages paid by SSTMC for its spinning mills and weaving mills, and the monetary incentives and allowance as a percentage of the total wages. From the table, the reader can see that the payment of monetary incentives and allowances nearly always constitute one-fourth of the total wage payments. The month of February has the highest percentage of monetary incentives and allowances because of the Lunar New Year holidays. There are also higher percentages for monetary incentives and allowance for April, August, September and December because of the Ching Ming Festival, Mid-autumn Festival and Winter Arrival Festival respectively during these months. From this table, the reader can also see the increase in total wage payments during the last two year at SSTMC.

The mill manager told the author that there was no fixed date for the revision of the monetary incentive schemes for machine-operators at SSTMC. Whether a revision is necessary depends on the needs of the firm at any gives time. The mill manager holds meetings with the chief engineers and engineers every week, and any additional monetary incentive schemes would be considered during these meetings.

[1] This extra pay is now HK$1.80 per person per shift.

TABLE 2.3.2

TOTAL WAGE PAYMENTS FOR THE SPINNING AND WEAVING SECTIONS AND THE MONETARY INCENTIVES AND ALLOWANCES AS A PERCENTAGE OF THE TOTAL WAGE PAYMENTS OF SSTMC AS FROM JANUARY 1972 to FEBRUARY 1974.

MONTH	YEAR	TOTAL WAGE PAYMENTS OF THE SPINNING DEPARTMENT HK$	M (1)	TOTAL WAGE PAYMENTS OF THE WEAVING DEPARTMENT HK$	M (2)
JAN.	1972	468,547.92	27.27%	465,210.41	25.28%
FEB.	1972	417,710.80	40.15%	411,861.08	37.59%
MAR.	1972	483,343.90	26.26%	477,798.83	24.87%
APR.	1972	483,236.84	29.09%	477,561.97	27.59%
MAY.	1972	487,302.13	25.70%	494,461.72	24.46%
JUN.	1972	464,446.57	25.80%	470,106.48	24.69%
JUL.	1972	501,489.31	25.52%	517,043.98	24.31%
AUG.	1972	517,771.77	25.36%	537,569.53	23.81%
SEP.	1972	491,108.59	28.87%	506,890.66	26.75%
OCT.	1972	517,241.90	25.35%	529,417.26	24.10%
NOV.	1972	519,645.52	25.94%	531,282.11	24.32%
DEC.	1972	587,044.89	27.83%	593,049.00	26.91%
JAN.	1973	562,581.18	24.46%	558,111.35	23.96%
FEB.	1973	483,947.84	36.99%	480,652.93	36.82%
MAR.	1973	596,690.37	23.88%	583,724.92	23.14%
APR.	1973	581,187.43	26.62%	575,110.51	25.99%
MAY.	1973	593,591.50	23.60%	587,276.55	22.54%
JUN.	1973	598,520.44	23.40%	586,160.74	22.43%
JUL.	1973	643,893.62	23.23%	611,509.26	22.86%
AUG.	1973	674,368.41	22.91%	621,829.32	22.97%
SEP.	1973	673,047.94	29.82%	590,995.49	25.85%
OCT.	1973	683,800.37	27.83%	593,916.37	23.24%
NOV.	1973	677,028.24	29.66%	582,453.25	23.67%
DEC.	1973	715,637.46	32.75%	637,652.40	26.76%
JAN.	1974	655,582.54	48.10%	604,268.48	41.45%
FEB.	1974	593,369.61	29.55%	521,757.39	23.17%

Source: Data furnished by the Mill Accounting Department of SSTMC

2.4 Management Goals In Using Monetary Incentive Schemes And Importance of the Present Study

Management's primary goal in using monetary incentive in the textile industry is: to motivate workers with the hope for result of a higher rate of production. Ancillary benefits are also hoped for such as the reduction of workers' injuries with the increase in job satisfaction. Others, such as the reduction of labor unrest, labor turnover and absenteeism can also increase productivity, which in turn will increase the company's profit margin.

The workers perceive monetary incentives as a reward for their contributions of high productivity, apart from their normal pay. From the stand-point of social responsibility, monetary incentives can be viewed as more than a way to compensate workers' services. It is in fact a way to share the company's profit which is partly supported by the workers' hard work. So from this point of view they are perfectly entitled to share in the profit.

As stated in the Workers Handbook, 1968 of SSTMC, it is the aim of the firm to make the employer and the employees both benefit. On the one hand, the company aims at increasing productivity and improving the quality of its products; on the other hand, it aims at meeting the employees' wants and rewarding them substantially. It is the main concern of the firm to improve the working environment at the mill and to introduce both financial and non-financial incentives for its employees with the hope that its employees will contributes to their fullest for the firm.[1]

---

[1] Direct translation by the author from the introduction of the Workers Handbook, 1968, printed by SSTMC.

Beginning in 1970, there were generally sharp drops in net profits for textile mills in Hong Kong. One of the main reasons accounting for the sharp drops in net profits was the severe shortage of labor in 1971 which caused the wages for industrial workers to shoot up by more than 10 per cent during that year, and since then the wages for blue collar workers in Hong Kong have been rising by about 12 per cent per annum. Another reason for the decline in profits in the textile industry is the tightening of quotas imposed by most of the importing countries on Hong Kong textile products. Rising prices of raw cotton of all growths is yet another important reason.

The following excerpts from his Chairman's Statement to Share-holders in 1970, the past President of the Board of Directors, P.Y. Tang pointed out that

> "...prices of raw cotton of all growths reached new highs for 1970. Although prices of our yarn had also gone up towards the end of the year, such increases were not sufficient to compensate for the increased costs of raw materials. Meanwhile, labor situation remained acute during the year and wage increases were in the region of 15 per cent to 20 per cent on the average for the textile industry."
>
> "In addition to the problem of increasing costs, I feel it pertinent to have a word on the perennial nightmare that has for years been hovering over the horizon of the local textile industry- restraints and protectionism from abroad. In the U.S.A. the death of the Mills Bill toward the end of the year seemed to have provided but a temporary relief. At the time of writing this statement President Nixon has rejected a subsequent Japanese offer of voluntary restraints. Whichever form a settlement may eventually take, it felt that restrictive measures on synthetic and wollen textile exports form developing countries are inevitable. Hongkong will be no exception."
>
> "To further aggravate our competitive situation,

> the previous Labour Government in the U.K. decided to replace the existing quota system on imports into Britain of cotton textiles from Commonwealth Countries by a traiff commencing January 1st 1972. This means that in this important sector Hong Kong will, in a few months' time, lose most of the present benefits of Commonwealth Preference, which has been an important factor in development of industry in Hong Kong. And whilst we lose duty-free entry Britain's E.F.T.A. partners, including particularly the Portuguese, will continue to enjoy it."
>
> "The generalised preference scheme for developing countries as envisaged by the United Nations Conference on Trade and Development (UNCTAD) moved nearer realization when the prospective 'donor' countries presented their revised schedule of offers to the UNCTAD Special Committee on Preferences in September. The Committee produced a report with a set of mutually acceptable conclusion for submission to the UN General Assembly. Final decision on beneficiary countries, product coverage, rates of preferential tarriff, etc. are all left to the individual donors."

In 1971, the textile mills in Hong Kong experienced a more difficult year. Mr. Jack C. Tang, the present President of the Board of Directors of SSTMC, accounted for the further deep dent in profits in his Chairman's Statement to Shareholders in 1971 with the following reasons:

a) continued rise in the price raw cotton of all growths averaging about 15 per cent during the past year;

b) further up-surge of labor cost by about 10 per cent;

c) the unabated dumping of Pakistan yarn in the local market up to a quantity of about one-third of the total production of Hong Kong's spindleage; and

d) soft market conditions in the major importing countries.

In 1972 textile mills were faced with more or less the same situation as in 1971, although individual mills could cope with the

situation by the more economic utilization of labor and better production methods.

In his most recent Chairman's Statement to Shareholders[1], Mr. Jack C. Tang reviewed the year 1973 as follows:

> "Hong Kong's textile industry in the year 1973 was characterized by the frequency and extent of up-surges in costs of raw-materials accompanied by corresponding hardening of prices of end-products to unprecedented levels. This development played such a crucial role in the operation of the industry that the problems which it had hitherto been faced with, such as export restraints, labor shortage and rising overheads, lost their relative significance. The industry was faced with a different ball game of which shortage of raw-materials became the cardinal rule. However, to the spinning and weaving sectors which managed to overcome the difficult problem of materials supply, such a trend had a positive effect on their profitability, if only due to the long pipe-line requirement in the operation."
>
> "The energy crisis that emerged last fall sent shock waves to most industrialized countries in the world. While it is difficult to quantify its over-all impact on the industry, the immediate effects are reflected in increased electricity charges and freight. The latest increase in electricity charges alone, if not abated later, would bring the industry's expenditure on this item in 1974 to more than double of that for 1973."

It is under such circumstance that the author made a study of monetary incentive schemes on job satisfaction in the spinning and weaving industry of Hong Kong. As the extra-pay incentives take up a greater portion of the expense for labor cost and since a good design of monetary incentive schemes can raise the productivity of the mill and to save undue labor cost, it becomes very important

---

[1] Dated as April 1 1974, this Annual Report was for the year ended December 31 1973.

for the management to evaluate carefully the monetary incentive schemes offered. To find out the impact of monetary incentive schemes on productivity, labor turnover rate, absenteetism and thus job satisfaction in general, would certainly help the management of the factory a great deal in maximizing the monetary incentive schemes offered. It is with this idea that the author endeavors to make a study of monetary incentive schemes on job satisfaction, using SSTMC, as his intensive case study. The reader can see how the total wages for cotton spinning and weaving workers increased during the past several years from the following tables. Table 2.4.1 is the trend of total wage payments for its workers (excluding staff) at SSTMC from 1968 to 1973. The other two tables show the trend of average daily wages of cotton spinning and weaving workers from 1969 to 1973.

TABLE 2.4.1

TOTAL WAGE PAYMENTS FOR WORKERS AT SSTMC FROM 1968 TO 1973

YEAR	NUMBER OF WORKERS	TOTAL WAGE PAYMENT	PER MONTH	PER DAY	CHANGE PERCENTAGE
1968	2,443	8,899,590.05	741,632.50	24,584.50	
1969	2,384	10,020,903.34	835,075.28	27,682.05	+12.60%
1970	2,442	11,717,832.32	976,486.03	32,369.70	+16.93%
1971	2,416	12,829,813.70	1,069,151.14	35,539.65	+9.49%
1972	2,200	13,254,074.56	1,104,506.21	36,613.46	+3.31%
1973	2,316	15,922,004.63	1,326,833.72	44,105.27	+20.13%

Source: Data furnished by the Mill Accounting Department.

TABLE 2.4.2

INDEX OF NOMINAL AVERAGE DAILY WAGES FOR COTTON SPINNING AND WEAVING WORKERS (March 1964 = 100)

(A) EXCLUDING FRINGE BENEFITS

	1969	1970		1971		1972		1973		Wages in Sept. 1973
	Sept.	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.	(HK$)
Overall	151	163	177	192	204	213	224	239	253	22.17
Cotton Spinning	147	156	179	189	196	202	215	238	246	19.14
Cotton Weaving (3 shifts)	150	157	177	194	206	215	225	246	257	19.42
Cotton Weaving (2 shifts)	143	154	164	184	214	223	224	246	268	22.21

(B) INCLUDING FRINGE BENEFITS

Overall	150	161	176	190	200	209	220	238	252	25.75
Cotton Spinning	142	152	178	187	194	198	211	240	250	27.40
Cotton Weaving (3 Shifts)	142	148	171	188	199	205	217	240	253	26.76
Cotton Weaving (2 Shifts)	138	150	166	180	206	215	218	241	259	26.23

Source: Hong Kong Monthly Digest of Statistics, December 1973.

TABLE 2.4.3

INDEX OF REAL AVERAGE DAILY WAGES FOR COTTON SPINNING AND WEAVING WORKERS (March 1964=100)

(A) EXCLUDING FRINGE BENEFITS

	1969		1970		1971		1972		1973
	Sept.	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.	Mar.	Sept.
Overall	125	132	136	145	151	156	156	159	146
Cotton Spinning	122	127	137	142	146	148	150	158	142
Cotton Weaving (3 shift)	124	127	136	146	153	158	157	164	148
Cotton Weaving (2 shifts)	119	125	126	139	159	164	156	164	154

(B) INCLUDING FRINGE BENEFITS

Overall	124	131	135	143	148	153	154	158	145
Cotton Spinning	118	123	137	141	144	145	147	160	144
Cotton Weaving (3 shifts)	118	120	131	142	148	151	151	160	146
Cotton Weaving (2 shifts)	115	122	127	136	153	158	152	160	149

Source: Hong Kong Monthly Digest of Statistics, December 1973.

3.0 MONETARY INCENTIVE SCHEMES AND JOB SATISFACTION -- SOUTH SEA TEXTILE MANUFACTURING COMPANY LIMITED

3.1 Study Design

3.11 Machine Operator -- Definition and Job Description

As mentioned in the 1973 Annual Report of SSTMC, there were 1,420 male workers and 1,020 female workers, making a total of 2,440. Of this number, there are 811 workers engaged in various production rooms of the spinning and weaving workshops.[1] The author's study is confined to the workers who have gone through their training periods and are presently engaged in direct production at the workshops. They are known as machine operators by the company.

As contained in the Workers Handbook, 1968 of SSTMC, which is the most recent issue, the qualifications, definition and prospects of a machine operator are as follows:

> A machine operator can be male or female and our mill offers training to young people. The trainees, after having received training for three months, can have a daily wage ranging from HK$8.00 to $15.00 (HK$11.00 to $20.00 by early 1974). Applicants (male age range: 18 - 25, female age range: 16 - 25), should have primary school education, good physique, good eyesight (with a short-sightedness under 200 degree prescription) and have no undesirable hobbies. Applicants should also be single in their marital status.
>
> The promotion path for machine operators is as follows:
> machine operator - unit leader - group leader - company staff - assistant engineer - engineer[2]

---

[1] This number was given by the Chief Engineers of the Spinning and Weaving Departments of SSTMC in March 1974.

[2] Direct translation from Workers Handbook, 1968 of SSTMC by the author.

The following is a brief description of the production processes[1] in the Spinning and Weaving Departments of SSTMC and the names, and jobs of various machine operators.[2]

The first production room of the Spinning Department of SSTMC is the Blowing Room. The blowing machines release the pressure of the highly-pressed raw materials by beating, and get rid of some of the debris in the raw materials, e.g., in the case of cotton, leaves and soil in cotton bales. Another function of the blowing machines is to mix several bales of raw materials, so that even if some of the raw materials are defective, the quality of the whole lot will not be affected. Lumps of cotton fibres are loosened, and the heavier impurities are cleaned off by this process. The cotton fibres then turn into a loosely-compressed cotton sheet rolled into a lap. The lap-unloader is responsible for unloading the lap and for seeing that it is up to an acceptable weight.

The lap so obtained is further mixed, and the fibres entangled inside the lap are separated and drawn to become wide thin webs called "slivers" in the Carding Room. The carders are responsible for attending to the carding machines, to make sure that the short fibres and impurities are cleaned off and that the slivers are gathered into strands.

After this process, the slivers are delivered to the appropriate sections, depending on what products are going to be produced, i.e., combed or carded yarn.

---

[1] Information concerning the production processes was furnished by the Quality Control Department of SSTMC.

[2] Names and the nature of the jobs of the machine operators were furnished by the Spinning and Weaving Departments of SSTMC.

For the production of combed yarns, the carded slivers are doubled to form laps again. (this kind of lap is much smaller in size than the laps from the Blowing Room.) The combing machines comb these laps and discard about 15 to 25 per cent of fibres known as noils (short fibre waste). The combed cotton is then converted into combed slivers which are ready for drawing. The combers run the combing machines and have roughly the same job as the carders.

The function of the Drawing Room is to improve the regularity and the quality of the slivers by means of doubling. Some of the wastage will be further taken off, and the parallization of fibres can be assured. The drawers are responsible for running the drawing machines and seeing that the slivers are properly drawn and that they do not break.

The Roving Room is where the slivers from the Drawing Room are drafted and twisted into thinner slivers called "rovings". The rovers attend the roving machines and are responsible for seeing that the slivers are properly twisted and drafted, and that they do not break.

The spinning process is to draft and twist the rovings from the previous process to the buyer's specifications, e.g., the weight per yard and the strength of the yarn etc.. Another function of this process is to put the yarns so obtained onto a bobbin. The spinners are thus the true spinning workers. They have to feed the spinning machines and to bind the broken yarns.

The doffers' job is to unload the bobbins from the spindles when the bobbins reach a certain specified weight and size. The spinners and doffers work together in the Spinning Room.

The yarn package from the Spinning Room is too small and

is not suitable for further processing or shipping. As a result, it has to be wound into a cone, i.e., into a larger package. Another function of the Cone-winding Room is to clear off any faults from the previous processes. The job of the winders is to attend the winding machines, to see that the yarns are properly wound, and to bind the yarns if necessary.[1]

The packers work in the Packing Room and their job is to pack the cones for storage or for shipment.

For a piece of cloth, there are two components, namely, the horizontal component known as the weft and the vertical component known as the warp. The weft and the warp are made up of the yarns prepared from the Spinning Department.

The Re-winding Room is where the cone-yarns are re-wound one more time. This is to make sure that the cone-yarns that are going to be used in weaving are free of any dirt and are strong enough to be woven into cloth. The re-winders attend the re-winding machines and their job is almost the same as the winders.

For the preparation of the warp, the re-wound cone-yarns have to go through three processes. The Warping Room is where the cone-yarns are placed in creel and are wound into a beam, which is a package containing a large number of warps.

The Sizing Room is where sizes are added to coat the warp yarns so that the friction created during weaving will not break the yarns. Usually the Sizing Room has a much higher temperature than other production rooms as the sizes are always in a boiling state. The Sizers attend the sizing machines and are responsible

---

[1] Most of the winding machines are automatic yarn binding. Nevertheless, the winders still have to bind yarns in some cases.

for assuring that the warp yarns are thoroughly coated with sizes and wound into warp beams.

The Drawing-in Room is where the warps from the Sizing Room are separated into order and put into groups, so that by controlling such groups, the weavers can control the interlacing of warp and weft, therefore making weaving possible. The Draw-inners are all girls, as this job requires very nimble fingers and a lot of patience. After this process, the warp beams can be placed into a weaving loom and the operation of weaving can begin if wefts are available.

For the preparation of Weft, the cone-yarns are unwound and converted into smaller packages called "pirns" in the Wefting Room. The pirns are the cone-yarns for wefts. The wefters run the wefting machines and prepare pirns, so their job is more or less analogous to that of the winders or re-winders.

The Weaving Room is where the weaving machines, called looms, weave the wefts and warps together into cloth. The weavers attend the looms and see that the proper wefts and warps are placed into the looms and that they are operating properly.

There are three kinds of machine operators in the Inspection Room: namely the repairers who are responsible for repairing the defective parts[1] of cloth; the yarders who attend the yarding machines which heat the repaired cloth and fold it into stipulated

---

[1] Some defects in cloth are Abrasion Marks -- areas where the fabric has been damaged by friction; Baggy Cloth -- a cloth that will not lie flat on a cutting table; Balling Up -- loose or frayed fibres which have formed into a ball and have then been woven into the fabric; Bias Filling -- cloth in which the filling yarn does not run at right angle to the warp etc. (22).

length; and graders who grade the cloth as stipulated by the engineers of the Weaving Department.

Finally the packers in the Packing Room pack the cloth into compressed big packages and these packages are ready for shipment.

3.12 Measurement of Machine Operators' Attitudes on Monetary Incentive Schemes

Those monetary incentive schemes chosen for evaluation are taken from the July 1973 issue, which is the most recent edition. The author has chosen six monetary incentive schemes for evaluation. The criteria for choosing the monetary incentives for the survey are:

1) they are for the machine operators;
2) they are rewarded in cash and paid in addition to the normal basic wages; and
3) in order to be qualified to be reward by a certain scheme, the machine operators have to make a certain performance as required by the company.

The following are names and definitions of the monetary incentive schemes that the author chooses in his study:

1. Annual Bonus: at the end of each Lunar Year, the machine operators are entitled to an annual bonus which is calculated as follows:
   a) From the date that a machine operators is qualified to get the annual bonus (i.e., working at SSTMC) to the end of each Lunar Year is known as number of annual bonus covered days. The number of absent days is substracted from it, and the remainder is the total actual working days.
   b) The actual working days divided by 365 days (or 366 days in case of a leap year) and

multiplied by 30, is equal to the actual number of days qualified for annual bonus.

c) The actual number of days qualified for annual bonus times the average daily wages in the Lunar Year is the sum for Annual Bonus.[1]

2. Extra Pay for Night Shift: there is extra pay of HK$1.80 per person, for those machine operators who take the night shift, i.e., from 11 p.m. to 7 a.m. next morning.

3. Extra Pay for Not Taking More than One 4-Hour Leave: for each payment period, i.e., fifteen days, those machine operators who have not taken more than one leave and the leave being less than four hours, are rewarded by 2/15 of their basic wages in that period.

4. Over-time Pay: the machine operators are double-paid according to their normal wage rates for any over-time they have taken.

---

[1] While this looks extremely complicated, it is simply more or less the sum for double pay at the year-end month. Perhaps the following mathematical formula for the calculation of Annual Bonus will help the reader to get a clearer picture of it:

$$\frac{\text{(Number of Annual Bonus Covered Days - Number of Absent Days)} = \text{Number of Actual Working Days}}{365 \text{ or } 366 \text{ in case of a leap year}} \times 30 \times \text{average daily wages} = \text{Annual Bonus}$$

The sole purpose for this computation is only to make a bigger reward (closer to a month's total wages) for those machine operators who have a high present rate and to make a lesser sum of Annual Bonus for those machine operators who have a high absent rate.

Note: the amount received from Over-time Pay will not be taken into account for the reward of Extra Pay for Not Taking More than One 4-Hour Leave.

5. Full Attendance Pay: for each payment period, for those machine operators who have taken no leave, the Morning and Afternoon Shift machine operators are rewarded by HK$0.50 per working days. The night shift machine operators are rewarded by HK$2.00 per working day.

6. Extra Pay for Working on Rest Days: machine operators on either of the three shifts are entitled to four rest days per month, and if they are called to work on their rest days, they will be paid at 150 per cent of their normal wage rates.

Note: the amount thus received will not be taken into account for the reward of Extra Pay for Not Taking More than One 4-Hour Leave.

Six questions were designed to invite the machine operators' opinions on how they evaluate the above-mentioned six monetary incentive schemes. A five-point Likert scale was employed to score the machine operators' attitudes on how they felt towards the schemes. The six questions are as follows:

1. Do you think the Annual Bonus would make you take fewer leaves?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

2. Do you think the Extra Pay for Night Shift would make you work on the night shift?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

3. Do you think the Extra Pay for Not Taking More than One 4-Hour Leave would make you take fewer leaves?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

4. Do you think the Over-time Pay would make you take any over-time work?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

5. Do you think the Full Attendance Pay would make you take fewer leaves?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

6. Do you think the Extra Pay for Working on Rest Days would make you work on your rest day(s)?

A	B	C	D	E
Definitely	Often	Sometimes	Rarely	No, I don't think so

The following values were set by the author:

A = The machine operators view the monetary incentive schemes as extremely important to them.

B = The machine operators view the monetary schemes as important to them.

C = the machine operators view the monetary incentive schemes as fairly important to them.

D = the machine operators view the monetary incentive schemes as not important to them.

E = the machine operators view the monetary incentive schemes as having no effect on them at all.

3.13 Measurement of Job Satisfaction of the Machine Operators

A five-point Likert scale as used in Brayfield and Rothe's job satisfaction questionnaire (5) is employed in this study to measure the degree of job satisfaction of the machine operators of SSTMC. It is the author's opinion that the statements set forth in Brayfield and Rothe's questionnaire are too redundant.[1] However, because of the particular nature of the machine operators of Hong Kong, the author felt that so many statements of such a similar nature[2] would try their patience and have a negative effect on

---

[1] Of course the author realizes that such similarities are intended to serve as counterchecks in the Brayfield and Rothe's questionnaire.

[2] It is the author's opinion that the following groups of statements in Rothe's questionnaire are very similar to each other in nature. The main heading is this author's, the statement numbers are the original number in the questionnaire.

A. Negative statements which describe the job with dissatisfaction:
- 4. I consider my job rather unpleasant.
- 6. I am often bored with my job.
- 8. Most of the time I have to force myself to go to work.
- 10. I feel that my job is no more interesting than any other I could get.
- 11. I definitely dislike my work.
- 14. Each day of work seems like it will never end.
- 16. My job is pretty uninteresting.
- 18. I am disappointed that I ever took this job.

B. Positive statements which describe the job with satisfaction:
- 1. My job is like a hobby to me.
- 2. My job is usually interesting enough to keep me from getting bored.
- 5. I enjoy my work more than my leisure time.
- 13. Most days I am enthusiastic about my work.
- 17. I find real enjoyment in my work.

C. Positive statements which describe the job with satisfaction but milder in emotion:
- 7. I feel fairly well satisfied with my present job.
- 9. I am satisfied with my job for the time being.

D/...

soliciting their "cool" opinions. Furthermore, all statements center on the overall evaluation of the job without taking into consideration any work role variables such as those conceived by Herzberg (79) and Vroom (56).

To alleviate these problems, only four questions and two statements were included to solicit the machine operators' attitudes concerning job satisfaction. They were interspersed among other questions, and through this technique the author hoped that fair opinions could be collected. The following four questions were intended to invite the machine operators' opinions on four different determinants of job satisfaction, namely, job content, management, work group and supervisor(s):

1. On job content

Do you consider your job monotonous?

A	B	C	D	E
Interesting	Not a bit	It's OK[2]	Monotonous	Very Monotonous

(continuation of footnote 2 of last page)
D. Comparing the interviewee's attitude with that of his fellow workers:
3. It seems that my friends are more interested in their jobs.
12. I feel that I am happier in my work than most other people.
15. I like my job better than the average worker does.

[1] "The early scales seem to have been based on the assumption that job satisfaction was an overall global factor (8)."

[2] As shown by the preliminary survey, workers preferred to describe their feelings in Cantonese (A dialect spoken by people in Canton, which is the biggest city in South China. Most of the

Chinese/.....

2. On management

How do you feel the firm treats you?

A	B	C	D	E
Very well	Quite well	It's OK	Badly	Very badly

3. On work group

How do you like your fellow workers?

A	B	C	D	E
Very much	Pretty much	They're OK	Dislike	Extremely dislike

4. On immediate supervisor(s)

A	B	C	D	E
Very good	good	He's (They're) OK	Bad	Very bad

The above four questions serve somewhat as to educate the machine operators that these are the work role variables they need to consider before they state their attitudes on Question 15, which

---

(continuation of footnote 2 of last page)

Chinese people who moved to Hong Kong came from Southern China, thus Cantonese is the most prevalent dialect.) as " " (mamadei) which is close to the English "it's okay," although the author had also set a scale for "no idea" in the preliminary questionnaire. Thus when such a term is found in the question on job content, i.e., "Do you consider your job montonous?" it would mean "a little bit, but it doesn't bother me." And when such a term is found in the question on management, i.e., "How do you feel the firm treats you?", it would have the connotation of: "Not too bad, I am fairly satisfied with the treatment." It is the author's opinion and that of many of the Cantonese speaking supervisors at SSTMC that when such a term is used, it would be understood by the workers to mean "fairly satisfied" rather than being neutral or having no idea about their attitude. For convenience's sake, the author has put "OK" in the English version of the questionnaire when the above-mentioned Cantonese term was used in the actual questionnaire.

will be taken as the measurement of their overall job satisfaction. Moreover Question 7.1 and 11.1, one on the positive side, one on the negative side, also help the machine operators to think of the good and bad qualities of the firm as conceived by them:

7.1 If your answer for 7 is "quite well" or "very well," could you tell which of the following reason(s) make(s) you think so?

( ) good basic wages

( ) good monetary incentive schemes

( ) nice management

( ) nice welfare schemes, e.g., hostel and medical facilities etc.

( ) good working environment

( ) the firm provides a chance for people like me to stay together

( ) the firm provides a chance for me to learn some skills

Others, please state _____.

11.1 If your answer for 15 is "agree" or "strongly agree," could you tell which of the following reason(s) make(s) you think so?

( ) few promotion opportunities

( ) bad superior(s)

( ) heavy work-load

( ) poor working environment

( ) job monotony

( ) distasteful work group

( ) not enough monetary incentives

( ) poor basic salary

Others, please state _____.

Finally, Question 15 is employed to record the machine operators' overall attitudes on job satisfaction:

15. I am satisfied with my job.

It is the score of Question 15 to be taken as the distribution of the machine operators of SSTMC, and the data of frequencies are to be correlated with the frequencies of attitudes on each of the six monetary incentive schemes in the following section.

The author admits that it is not a sophisticated way of measuring job satisfaction, but nevertheless it is a very practical one. The author has not put any subjective weightings on the possible work role variables that are supposed to be determinants of job satisfaction. This saves the possible mistake of having put undue weightings on them. Furthermore, the author has not limited the number of job satisfaction determinants for the machine operators' evaluation. Those possible determinants of job satisfaction as reviewed from current literature and considered relevant to the machine operators by both the author and the management of the firm with which the author has consulted; these are all set in Question 7.1 and 11.1. As mentioned before, this serves to remind the machine operators that these are the work role variables that they have to consider before they are invited to state their overall attitudes on job satisfaction. On the other hand, this eliminates the problem of calculating a job satisfaction index from the limited number of job satisfaction determinants given.

The machine operators are encouraged to state more than one good or bad points of their job and of the firm. They are also invited to state other points that are not included in the given choices. The

reader can see that the machine operators have been given ample opportunities to review the good and bad aspects of their jobs and the firm for which they work. Consequently, the author believes that Question 15, despite the fact that it is only a single question, will show a fairly good picture of job satisfaction of the machine operators. In fact, it was found in the survey that the job satisfaction frequencies of the negative statement "I dislike my work." and the frequencies of Question 15 were very close to each other. This proves that the results of Question 15 are pretty consistent attitudes of the machine operators of SSTMC.

3.2 Data Analysis

In this section, the author is going to analyze the data sorted out by computer, concerning monetary incentive schemes and job satisfaction. Individual analysis is given to each of the questions on the six monetary incentive schemes and job satisfaction. Finally the Chi-square test is employed to test the possible statistical significance between the expressed job satisfaction and each of the monetary incentive schemes.

3.21 The Machine Operators' Attitudes on the Six Monetary Incentive Schemes

The following table shows the machine operators' attitudes on the six monetary incentive schemes. The values for the five scales are as those mentioned in 3.12. The number of responses is shown under the name of each of the monetary incentives and the percentage of the whole sample size is shown in a bracket.

TABLE 3.21.1

Machine Operators' Attitudes on the Six Monetary Incentive Schemes

Degree of Importance	Extremely Important	Important	Fairly Important	Not Important	No Effect	Total
1. Annual Bonus						
	6 (1.47%)	38 (9.34%)	175 (43%)	161 (39.56%)	27 (6.63%)	407
2. Extra Pay for Night Shift						
	18 (4.42%)	93 (22.85%)	182 (44.72%)	64 (15.73%)	50 (12.28%)	407
3. Extra Pay for Not Taking More than One 4-Hour Leave						
	28 (6.88%)	193 (47.42%)	158 (38.82%)	17 (4.18%)	11 (2.7%)	407
4. Overtime Pay						
	19 (4.67%)	214 (52.58%)	120 (29.48%)	49 (12.04%)	5 (1.23%)	407
5. Full Attendance Pay						
	31 (7.62%)	205 (50.37%)	143 (35.14%)	21 (5.16%)	7 (1.71%)	407
6. Extra Pay for Working on Rest Day						
	12 (2.95%)	95 (23.34%)	198 (48.65%)	87 (21.38%)	15 (3.68%)	407

It was found that machine operators had different attitudes on the six common monetary incentive schemes. Table 3.21.2 shows the ranking of importance of the six monetary incentive schemes as conceived by the machine operators.

TABLE 3.21.2

Percentages of Machine Operators Who Considered That the Monetary Incentive Schemes Were "Extremely Important" or "Important" to Them.

Name of Monetary Incentive	Percentage
Full Attendance Pay	57.99%
Overtime Pay	57.25%
Extra Pay for Not Taking More than One 4-Hour Leave	54.30%
Extra Pay for Night Shift	27.27%
Extra Pay for Working on Rest Day	26.29%
Annual Bonus	10.81%

The above order of ranking of importance is very close to the following table which shows the percentages of machine operators who considered that the six monetary incentive schemes were "Not Important" or had "No Effect" on them.

TABLE 3.21.3

Percentages of Machine Operators Who Considered That the Monetary Incentive Schemes Were "Not Important" or had "No Effect" on them.

Name of Monetary Incentive	Percentage
Full Attendance Pay	6.87%
Overtime Pay	13.27%
Extra Pay for Not Taking More than One 4-Hour Leave	6.88%
Extra Pay for Night Shift	28.01%
Extra Pay for Working on Rest Day	25.06%
Annual Bonus	46.16%

Generally speaking, the machine operators considered the Full Attendance Pay, the Overtime Pay and the Extra Pay for Not Taking More than One 4-Hour Leave as important to them and that the Extra Pay for Night Shift, the Extra Pay for Working on Rest Day and the Annual Bonus as not so important to them. It is not within the scope of this study to find out why the machine operators have some preference for certain monetary incentive schemes over others. But from the author's experience with them, he found that the machine operators viewed a monetary incentive scheme as important when there was a considerable sum of cash reward in it, and when the effect was immediate. By immediate, the author means that they can get the cash reward within a very short time after they have done their jobs for the incentive.

H. K. Lai more or less shared the author's opinion:

> The incentive is more effective the more rapidly the wage payment reflects the increased production. Bonuses at the end of the year are less effective than those at the end of the week, for the individual loses sight of rewards far off in the future. ... the author also found that premiums for overtime work and work during holidays would be paid immediately to the workers on the day they worked.
>
> The greater the reward for added output, the greater will be the stimulus (30).

It was for the reasons that the machine operators did not view the Annual Bonus as important to them. Nevertheless, Annual Bonus does have some effect on the turnover rate of the machine operators when the payment time is approaching, i.e., before Lunar New Year. The effect is to be discussed in detail in 3.4.

Generally the machine operators did not favor working on their rest days. This was not because of too little cash reward or because the payment was not immediate enough. The author was told that if they had no rest days for fun, there would not be much meaning for earning money. It was for more or less the same reason that a lot of the machine operators did not think the Extra Pay for Night Shift important, since by working on the night shift, they would be excluded from a lot of their normal social activities. Most of the female machine operators on the day shift stated that the Extra Pay for Night Shift would not make them work on the night shift. It was found that those male machine operators who preferred to work on the night shift either needed a lot of money to spend on their families or to spend on some undesirable hobbies, e.g., gambling, going to dancing halls; those who were "singles" in Hong

Kong (they might have wives in Mainland China, for instance) and they took their jobs as a means of killing time (surely for earning some money at the same time), for meeting friends and for getting some social activity. It was the latter group of machine operators which had the highest satisfaction in their jobs.

3.22 Job Satisfaction of the SSTMC Machine Operators

As mentioned in 3.13, there are altogether four questions and two statements concerning the measurement of job satisfaction of the SSTMC machine operators. The following is an analysis of the findings on them.

The first question in the Questionnaire concerning the survey of job satisfaction is on job content. The machine operators were asked: "Do you consider your job monotonous?" The machine operators' attitudes were recorded as follows:

TABLE 3.22.1

Machine Operators' Attitudes on Job Content

Attitude	Number of Responses	As a percentage
Interesting	8	1.97%
Not a bit	65	15.97%
It's OK	211	51.84%
Monotonous	103	25.31%
Very Monotonous	20	4.91%
Total	407	100.00%

It was found that as far as job content was concerned, there were more machine operators who felt that their jobs were monotonous than those who did not. The reason for this is because the processes of spinning and weaving are mechanical and repetitive. Normally there is no freedom for the machine operators to decide

how their jobs should be done, as this is all stipulated by the engineers.

The second question is on the firm as a whole. The machine operators were asked how did they felt the firm treated them. The following attitudes were recorded:

TABLE 3.22.2

Machine Operators' Attitudes on the Firm

Attitudes	Number of Responses	As a Percentage
Very Well	6	1.47%
Quite Well	254	62.41%
It's OK	134	32.92%
Badly	9	2.21%
Very Badly	4	0.99%
Total	407	100.00%

The result is quite astounding as more than 63 per cent of the machine operators interviewed stated that the firm treated them well. The author and the interviewers did not think the machine operators were only being complimentary, because they were assured that no names would be taken down during the interviews. Furthermore, if they wanted to make some general answer, they could make a choice such as "It's OK." But the fact was that most of them indicated their choice as "Quite well" with smiles.

An even higher score was recorded when they were asked how

did they like their fellow workers:

TABLE 3.22.3

Machine Operators' Attitudes Towards Their Fellow Workers

Attitudes	Number of Responses	As a Percentage
Very much	41	10.07%
Pretty much	325	79.85%
They're OK	28	6.88%
Dislike	10	2.46%
Extremely dislike	3	0.74%
Total	407	100.00%

Only about 3 per cent of the machine operators interviewed stated that they disliked their fellow workers. One reason for the high score of favorable attitudes of the machine operators towards each other was perhaps the fact that the educational background and social status were almost the same for all the machine operators; consequently they had almost the same likes and dislikes. In fact, as shown in Table 4.24.1, 242 out of 260 who thought that the firm treated them well thought so because the firm provided a chance for people like them to stay together. This clearly relates to a feeling of social belonging.

The machine operators of SSTMC also showed very favorable attitudes towards their immediate supervisor(s).

TABLE 3.22.4

Machine Operators' Attitudes on Their Immediate Supervisor(s)

Attitudes	Number of Responses	As a Percentage
Very good	5	1.23%
Good	316	77.64%
He's (They're) OK	80	19.66%
Bad	4	0.98%
Very bad	2	0.49%
Total	407	100.00%

The Chief Engineer of the Spinning Department told the author that generally the machine operators had a favorable attitude towards their immediate supervisor(s) because all the supervisors were quite well educated. The supervisors of the machine operators of SSTMC hold the ranks of Assistant Engineers or Engineers. Most of them are holders of the Higher Diploma in Textile Technology from Hong Kong Polytechnic. Some of them are graduates of the South Sea English Secondary School who worked at SSTMC as part-time workers when they were studying at the school. As pointed out by the Chief Engineer of the Spinning Department, SSTMC is the only spinning and weaving mill in Hong Kong which employs so many university and Polytechnic graduates as supervisors in production. Thus the good educational background probably helps to establish good relationships between the machine operators and the supervisors. The author was also told that it is quite a common practice when the machine

operators are short of cash, for them to approach their immediate supervisors for help.

The following two tables show the attitudes of the machine operators recorded on the overall evaluation of their jobs. As stated in 3.13, the two statements, one positive, one negative, serve to countercheck the attitudes expressed by the machine operators. It was found that their attitudes were very consistent.

TABLE 3.22.5

Machine Operators' Attitudes on the Negative Statement: "I dislike my work."

Attitudes	Number of Responses	As a Percentage
Strongly disagree	20	4.91%
Disagree	105	25.80%
Slightly disagree	207	50.86%
Agree	57	14.01%
Strongly agree	18	4.42%
Total	407	100.00%

Table 3.22.6 is the distribution of job satisfaction of the operators.

TABLE 3.22.6

Distribution of Job Satisfaction of the SSTMC Machine Operators' Attitudes on the Statement: "I am satisfied with my job."

Attitudes	Number of Responses	As a Percentage
Strongly agree	21	5.16%
Agree	106	26.04%
Slightly agree	205	50.37%
Disagree	56	13.76%
Strongly disagree	19	4.67%
Total	407	100.00%

3.23 Monetary Incentive Schemes and Job Satisfaction--their Correlational Significance as shown by the Chi-square test.

The Chi-square test is to be used to test the relationship between the distribution of job satisfaction of the SSTMC machine operators and their attitudes on each of the six monetary incentive schemes.

The following formula (3) (15) is used for the computation of Chi-square:

$$\chi^2 = \sum_{i}^{r} \sum_{j}^{c} \frac{fo_{ij}^2}{fe_{ij}} - N$$

Where r = number of rows, with i as the running index

c = number of columns, with j as the running index

fo^2 is the square of the observed frequencies[1]

fe is the expected frequencies[2]

N is the total number of observed frequencies and in this case N = 407

The degree of freedom are determined by the following formula:

$$df = (r - 1)(c - 1)$$

Where r = row number

c = column number

---

[1] The actual frequencies obtained from the survey.

[2] The expected frequency for any cell is obtained by multiplying the two marginals corresponding to the cell in question and divided by N.

Since some cells have expected frequencies of less than five from the research, the author has combined four of the adjacent categories into two so as to make the Chi-square test more meaningful (3). For machine operators' attitudes on job satisfaction, "extremely satisfied" and "satisfied", "dissatisfied" and "extremely dissatisfied" are combined into two categories respectively. For machine operators' attitudes on monetary incentive schemes, "extremely important" and "important", "not important" and "no effect" are combined into two categories respectively.

As the combined row and column numbers for job satisfaction and attitudes of monetary incentive schemes are 3, therefore, the degree of freedom for the following tests is 4.

$$df = (3 - 1)(3 - 1)$$
$$= 4$$

The null hypothesis--that there is no relationship between the distribution of job satisfaction of the SSTMC machine operators and their attitudes on each of the six monetary incentive scheme is set for each of the test.

The o.ol level was used to test the null hypothesis. With 4 degrees of freedom, the value of the Chi-square at the o.ol level is 13.277. Therefore, the author will fail to reject the null hypothesis if the computed Chi-square is less than 13.277. If the computed Chi-square is greater than 13.277, the null hypothesis will be rejected.

The computation procedures are summarized in three tables for each of the test.[1] The following table is a summary of these findings.

---

[1] See Appendix D.

TABLE 3.23.1

Statistical Significance of Each of the Six Monetary Incentive Schemes and Expressed Job Satisfaction of the Machine Operators of SSTMC.

Pair of Variables under Test	Chi-square	At df 4 o.ol level	Null Hypothesis Reject or Fail to reject
Annual Bonus and Job Satisfaction	40.38	13.277	Reject
Extra Pay for Night Shift and Job Satisfaction	9.31	13.277	Fail to reject
Extra Pay for Not Taking more than One 4-Hour Leave and Job Satisfaction	23.60	13.277	Reject
Overtime Pay and Job Satisfaction	15.46	13.277	Reject
Full Attendance Pay and Job Satisfaction	40.63	13.277	Reject
Extra Pay for Working on Rest Day and Job Satisfaction	16.71	13.277	Reject

From Table 3.23.1, the reader can see that all hypothesis are rejected except one, i.e., Extra Pay for Night Shift and Job Satisfaction. In other words, job satisfaction of the machine operators of SSTMC correlates with five common monetary incentive schemes with the exception of Extra Pay for Night Shift. The reason for this was that quite a number of machine operators (most of them female) who indicated that they were satisfied or fairly satisfied with their jobs did not consider the Extra Pay for Night Shift as important. Quite often, the author and interviewers were told that the cash reward for

taking the night shift was attractive, but the workers still would not like to work on the night shift as life was not "normal" when one works during the night and sleeps during the day.

3.3 Monetary Incentive Schemes and Productivity--Management's Opinions and a Recent Example

Eight assistant engineers, eight engineers, the Chief Engineers of the Spinning and Weaving Department and the Mill Manager were interviewed about whether there was a close relationship between output and monetary incentives offered by the mill. They were invited to state their personal opinions on this. To the author's surprise, all of them unanimously agreed that output and monetary incentives, especially those individual ones, were very positively related.

The following is an excellent example showing the power of monetary incentive schemes on productivity.

The Reduction in the Number of Broken Yarns Incentive Scheme (henceforth abbreviated as RNBY in the study) is a brand-new monetary incentive and was introduced in September 1973, for the spinners and doffers of Spinning Workshop Number One. The objectives of such a monetary incentive scheme, as stated by the Chief Engineer of the Spinning Section, are as follows:

1. To reduce the number of broken yarns, especially during the bread and milk selling time and the changing shift time.
2. To increase the overall porductivity of yarn in the Spinning Section.
3. To improve the overall efficiency of the spinners.
4. To make the doffers, when not engaged in work, help the spinners to bind the broken yarns.

Before the implementation of this RNBY, the engineers of the Spinning Department found that the normal number of broken yarns during any shift was 15 per 1,000 spindles per 24 hours, whereas the number

increased a lot during the following periods:

1) 6:50 - 7:10 a.m. (changing shift time, during which the Morning Shift machine operators take over from the Night Shift machine operators)

2) 10:30 - 11:30 a.m. (bread and milk selling time, during which a caterer from the Mill Store will sell some canned drinks and cakes to the workers throughout all the production rooms at the mill)

3) 2:50 - 3:10 p.m. (changing shift time, during which the Afternoon Shift machine operators take over from the Morning Shift machine operators)

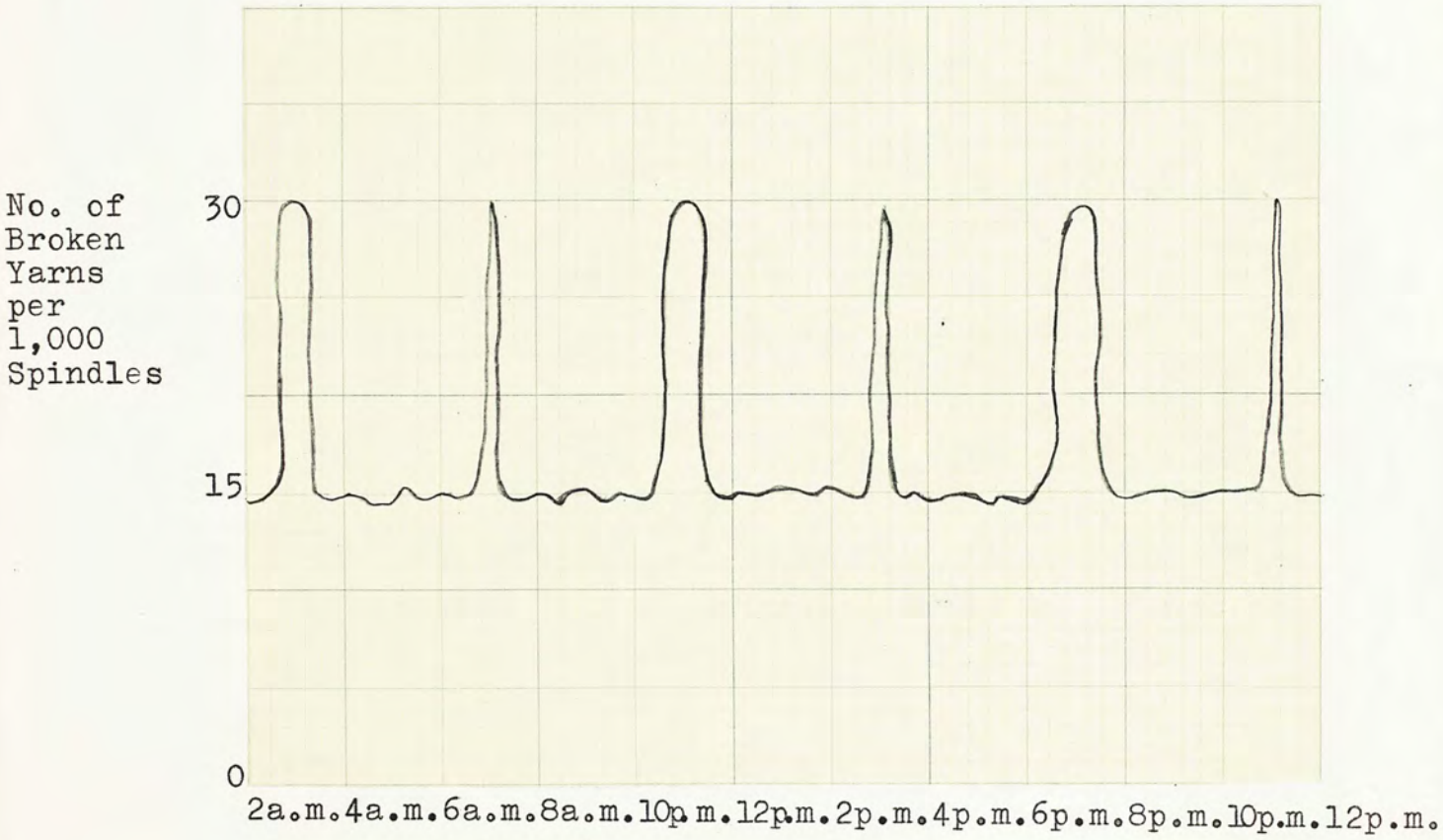
4) 6:30 - 7:30 p.m. (bread and milk selling time)

5) 10:50 - 11:10 p.m. (changing shift time, during which the Night Shift machine operators take over from the Afternoon Shift machine operators)

6) 2:30 - 3:30 a.m. (bread and milk selling time).

The following figure shows the general tendency of the fluctuations of the number of broken yarns during the three shifts.

Figure 3.3.1 General Tendency of the Fluctuations of the Number of Broken Yarns during the Three Shifts



Source: Data furnished by the Spinning Department of the Mill

The main purpose of this RNBY is to reduce the number of broken yarns during the abovementioned periods. Inspectors may be sent to check the number of broken yarns at any time during each shift, and there is always an inspection during the stated periods. The average number of broken yarns per 200 spindles for each spinner is recorded.[1] This monetary incentive scheme is rewarded as follows:

1) Individual

a. For spinners

i. 3/(1) broken yarns or under per 200 spindles per shift, the spinner is rewarded by HK$3.00
ii. 5/(4) broken yarns or under per 200 spindles per shift, the spinner is rewarded by HK$2.00
iii. 10/(8) broken yarns or under per 200 spindles per shift, the spinner is rewarded by HK$1.00

Note: 3, 5, 10 for cotton yarn spinners and 1, 4, 8 for blended yarn spinners. The standards are set higher for blended yarn spinners, because the rate of blended broken yarn is lower than the rate of cotton broken yarn.

b. For doffers: it follows the same scheme as for the spinners but if a doffer is reported for not helping the spinners when he is not engaged in unloading spindles, he will be disqualified for the incentive.

---

[1] It is calculated by the following formula:

$$\text{Average Number of Broken Yarns per 200 spindles of a certain spinner} = \frac{\dfrac{\text{Total Number of Broken Yarns Recorded}}{\text{Number of Inspection}}}{\text{Number of 200 spindles responsible to look after by the spinner}}$$

c. For doffer leaders: they are rewarded by 150 per cent as that of the spinners and doffers.

2) Group

For the spinners, doffers and doffer leaders, the rewards are the same.

i. 15/(8) broken yarns or under per 200 spindles per $\frac{1}{2}$ month, each is rewarded by HK$15.00
ii. 25/(20) broken yarns or under per 200 spindles per $\frac{1}{2}$ month, each is rewarded by HK$10.00

Note: 15 and 25 for cotton yarn and 8 and 20 for blended yarn. And in order to be qualified for the reward of his group incentive scheme, they have to be present for at least 10 working days in half a month.

The above scheme started at Spinning Workshop Number One in September, for two months, and was proved to be very beneficial both to the firm and to the machine operators involved.[1] On November 1, 1973, the following scheme was offered to the spinners,

---

[1] As calculated by the Chief Engineer of the Spinning Section, the minimum increase in output is as follow:

Before the implementation of such scheme, the average number of broken yarns during the bread and milk selling time and the changing shift time was estimated to be 14.6 per 200 spindles per 24 hours.

A monetary incentive reward of HK$1.00, as estimated, would at least reduce the average number of broken yarns to 9.6 per 200 spindles per 24 hours.

The reduction in the number of broken yarns would therefore be 5 per 200 spindles per 24 hours.

Take the number of spindles at SSTMC as 40,000, then the reduction in the number of broken yarn would be 1,000 per 24 hours. Increase in output of yarn converted to equivalent of 20 counts would be

1.2 lbs.* x 1,000 = 1,200 lbs. per 24 hours

* It is estimated that the productivity at SSTMC per spindle per 24 hours for yarns at 20 counts is 1.3 lbs.

doffers and doffer leaders in Spinning Workshop Numbers Two and Four. The standards set are higher because these two workshops are better equipped than Workshop Number One, and normally those better qualified machine operators are transferred from Workshop Number One to Two and Four.

1) Individual

a. For spinners

i. 1 broken yarn or under per 200 spindles per shift, the spinner is rewarded by HK$3.00.
ii. 2 broken yarns or under per 200 spindles per shift, the spinner is rewarded by HK$2.00.
iii. 4 broken yarns or under per 200 spindles per shift, the spinner is rewarded by HK$1.00.

b. For doffers: it follows the same scheme as for the spinners, but if a doffer is reported for not helping the spinners when he is not engaged in unloading spindles, he will be disqualified for the incentive.

c. For doffer leaders: they are rewarded by 150 per cent as that of the spinners and doffers.

2) Group

It is for the spinners, doffers, and doffer leaders and their rewards are the same.

i. 5 broken yarns or under per 200 spindles per $\frac{1}{2}$ month, each is rewarded by HK$15.00
ii. 6 broken yarns or under per 200 spindles per $\frac{1}{2}$ month, each is rewarded by HK$10.00

Note: In order to be qualified for the reward of this group incentive scheme, they have to be present for at least 10 working days in half a month.

Table 3.3.1 shows the monthly output of cotton and blended yarn, converted to the equivalent of 20 counts in pounds per spindle per 24 hours.

TABLE 3.3.1

Monthly Output of Cotton and Blended yarn in the Spinning Department of SSTMC in 1973 and 1974 (January - February), converted to Equivalent of 20 Counts in Pounds per Spindle per 24 Hours.

WORKSHOP	LBS. PER SPINDLE PER 24 HOURS			
	1973			
	Jan. - Feb.	Mar. - Apr.	May - June	July - Aug.
No. 1 Cotton Yarn	1.2473	1.2457	1.2474	1.2662
No. 1 Blended Yarn	1.3585	1.3580	1.3658	1.3942
No. 2 Blended Yarn	1.5121	1.4954	1.4210	1.4972
No. 4 Blended Yarn	1.4173	1.3721	1.3965	1.3866
	1973		1974	
	Sept. - Oct.	Nov. - Dec.	Jan. - Feb.	
No. 1 Cotton Yarn	1.3168	1.3500	1.3320	
No. 1 Blended Yarn	1.4899	1.5538	1.6250	
No. 2 Blended Yarn	1.6066	1.6932	1.6937	
No. 4 Blended Yarn	1.4171	1.5143	1.5465	

Source: Data furnished by the Production Planning Department of SSTMC.

Table 3.3.2 shows the number of machine operators qualified for the reward of the RNBY and the total payment for this scheme from September 1973 to March 1974. From these two tables, the reader will be able to appreciate the impact of monetary incentives on productivity more fully.

TABLE 3.3.2

Number of Machine Operators Qualified for the Reward of the RNBY and the Total Payment for the Scheme per Payment Period from September 1973 to March 1974.

Year	Month	Payment Period	No. of Machine Operators Qualified for the Scheme	Payment
1973	Sept.	1st	203	HK$ 9,459.00
		2nd	204	9,904.50
	Oct.	1st	207	10,020.00
		2nd	215	10,722.50
	Nov.	1st	299	13,575.50
		2nd	305	13,866.00
	Dec.	1st	318	14,132.00
		2nd	319	14,979.50
1974	Jan.	1st	331	13,673.00*
		2nd	344	12,536.00*
	Feb.	1st	336	14,390.50
		2nd	331	11,690.50*
	March	1st	325	14,565.00

Source: Data furnished by the Mill Payroll Department.

* The sums of payment declined a bit in January and February as the Lunar New Year holidays were in January, and on February 28 and 29, there was no electricity supply in Tsuen Wan District due to a technical problem of the China Light & Power Company, Limited, Tsuen Wan Station.

3.4 Monetary Incentive Schemes And Labor Turnover

Table 3.4.1 shows the turnover rate of machine operators at SSTMC for 1972 and 1973. A record is kept of the number of machine operators who have left the firm from the Spinning and Weaving Departments, so a total number for each month was easily arrived at. The turnover rates are calculated by the author, taking the total population of the machine operators for the two years as 811.[1]

The author's intention in taking two years' turnover was to draw a more valid conclusion on the impact of monetary incentive schemes on the turnover rate of machine operators. Furthermore, the reader can also see the general pattern of the machine operators' turnover rates from the data of one more year.

The curve in Figure 3.4.1 shows three distinct periods of labor turnover. The first period is from October to February, when the turnover rates are the lowest. It is safe to assume that this is due to the fact that the machine operators are eagerly anticipating the two bonuses, the Annual Bonus and the Long Service Bonus[2] which are paid just before the Lunar New Year.[3] The second period is from February to May. The turnover rates in this period soar up sharply, as the machine operators have collected their bonuses and

---

[1] The formula for calculating turnover rates is as follows:

$$\frac{\text{Total Number of Machine Operators that Have Left the Firm in that Month}}{811} \times 100$$

$$= \text{Turnover Rate for that Month}$$

[2] See Appendix E

[3] Normally, the Lunar New Year Day is in either January or February. In 1972, it was in February and in 1973, it was in January.

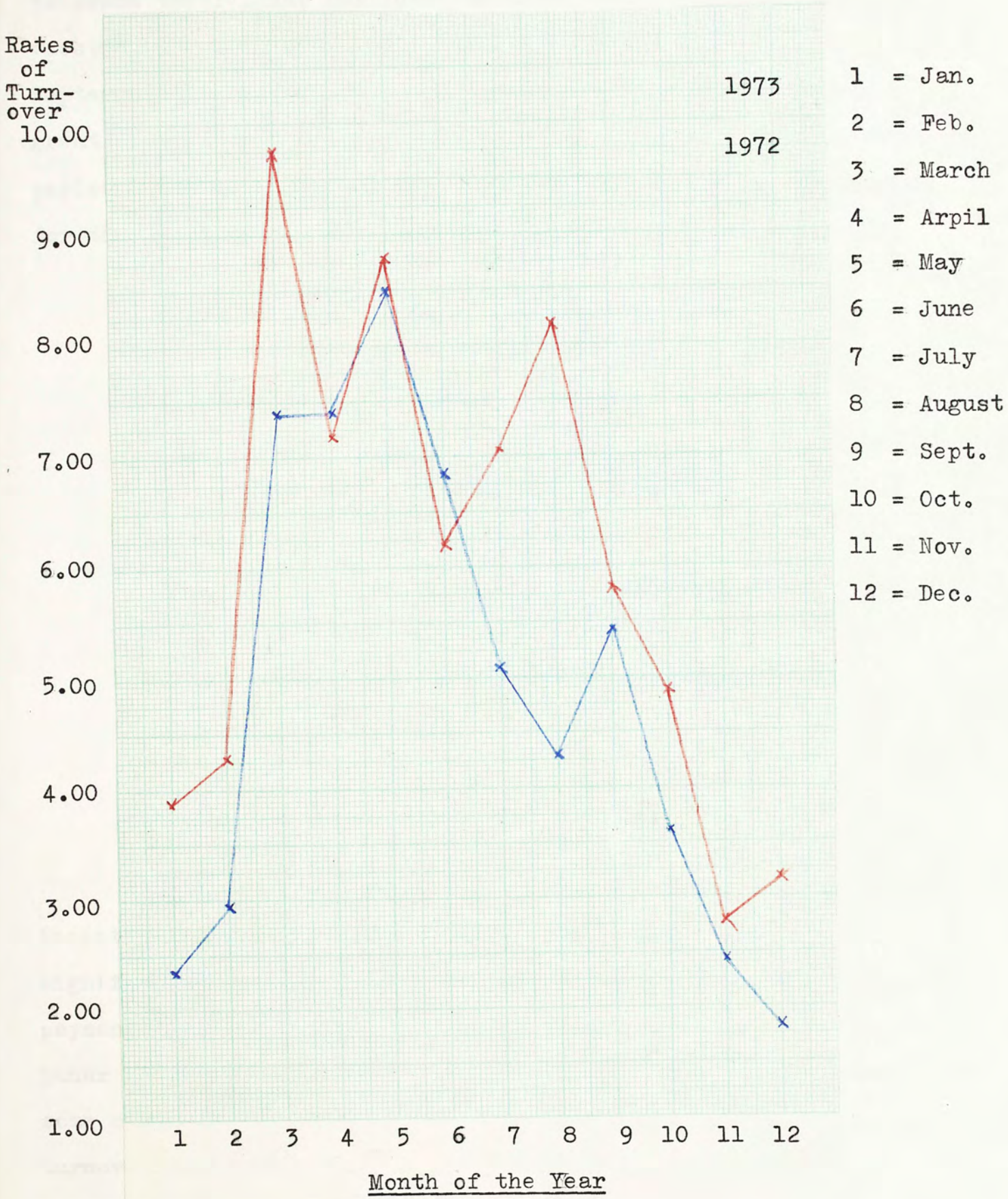
TABLE 3.4.1

Labor Turnover of the Machine Operators of SSTMC from January 1972 to December 1973.

	Month	Spinning Department	Weaving Department	Total	Turnover Rate
1972	January	9	10	19	2.34%
	February	11	13	24	2.96%
	March	29	31	60	7.40%
	April	27	33	60	7.40%
	May	34	35	69	8.51%
	June	24	30	54	6.66%
	July	19	22	41	5.06%
	August	18	17	35	4.32%
	September	24	20	44	5.43%
	October	12	17	29	3.58%
	November	10	10	20	2.47%
	December	5	10	15	1.85%
1973	January	26	6	32	3.95%
	February	14	21	35	4.32%
	March	37	42	79	9.74%
	April	23	35	58	7.15%
	May	36	35	71	8.76%
	June	16	34	50	6.17%
	July	22	35	57	7.03%
	August	31	35	66	8.14%
	September	31	16	47	5.80%
	October	25	15	40	4.93%
	November	6	17	23	2.84%
	December	15	11	26	3.21%

Source: Calculated by the author from data supplied by the Mill Personnel Department.

Figure 3.4.1 Turnover Curves of the SSTMC Machine Operators in 1972 and 1973



many of them leave Hong Kong for their hometowns in Mainland China to spend their Lunar New Year Vacation, usually extending their vacation on their own. The third period runs from June to September. During this period, the turnover rates fluctuate a great deal and are generally higher than in the October to February period. The main reasons given by the Mill Personnel Department for the fluctuations in turnover rates during this period are:

a) Machine operators normally prefer to take as many leaves as possible and even to change from the particularly uncomfortable working environment in the weaving and spinning industry during the unbearably hot and humid period.
b) Machine operators usually get ill-tempered during this period, thus conflicts between the supervisors and the machine operators become more frequent.
c) Machine operators are prone to getting sick during this period.

Judging from the periods mentioned above, the two monetary incentive schemes, the Annual Bonus and Long Service Bonus, significantly effect the turnover of the machine operators when the payment time for the two bonuses is approaching, i.e., before the Lunar New Year. After the two bonuses have been paid, however, some other environmental factors seem to have more influence on turnover rate until another payment time for the bonuses is approaching.

3.5 Monetary Incentive Schemes and Absenteeism

The following table shows the absenteeism percentages of machine operators at SSTMC from January 1972 to December 1973. Again the author takes two years' figures so that the reader can see the general pattern of this absenteeism.

Generally speaking, there are five kinds of leaves that can be taken by the machine operators:

1) Four ordinanced rest days per month, but without pay;
2) Six ordinanced paid holidays, as stipulated by the Labor Department of the Hong Kong Government:
   a. the Lunar New Year Day
   b. the first day after the Lunar New Year Day
   c. the Ching Ming Festival
   d. the Dragon Boat Festival (SSTMC replaces this with the Lunar New Year Eve)
   e. the Mid-Autumn Festival
   f. The Winter Arrival Day
3) Those machine operators who have worked at SSTMC for one year and have not taken more than two leaves (other than those under the headings of 2 and 3) and each leave being not more than one day, are qualified to enjoy the paid annual leave as follows:

Conditions	1 to 5 years service	5 to 10 years service	More than 10 years service
No leave taken	3 days	4 days	5 days
1 leave and not more than 4 hours	2 days	3 days	4 days
2 leaves and each leave not more than 1 day	1 day	2 days	3 days

The above three types of leave will not affect the payment of the following incentives: Extra Pay for Not Taking More than 4-Hour Leave, the Full Attendance Pay and the Extra Pay for Working On Rest Day. Aside from the above kinds of leaves, the machine operators can also take the following leaves, but these will affect the awarding of the three abovementioned incentive schemes.

4) Permitted leaves: Those machine operators who want to take a leave in addition to the above-mentioned leaves must apply to their supervisors one day ahead, so that their supervisors can arrange some other machine operators to replace them.

5) Illegal leaves: Those machine operators who take their leaves without having applied to their supervisors will be considered as having taken illegal leaves. If one machine operator takes such leaves for three consecutive working days, he will be dismissed by the firm. If he takes one such leave for

> one working day, one black point will be recorded against him. Nine black points will also result in the dismissal of the machine operator.

The reader can observe that there is a great similarity between the turnover curves and the absenteeism curves. In fact, their trends are almost the same. There are also three distinct periods of labor absenteeism at SSTMC, and they are compatible with those of labor turnover. From October to January, the absenteeism is lowest, as the machine operators are anxious to get the Annual Bonus and the Long Service Bonus. Moreover, they prefer to minimize their leaves, so as to get a greater sum of wages, as most people will have to spend more during the Lunar New Year holidays. The second period is from February to May. During this period, the absenteeism rate shoots up for the same reasons given in chapter 3.4. The third period also shows the same trend as the turnover curve, and the reasons given by the Mill Personnel Department are the same as those in chapter 3.4. As a result, the reader can see that monetary incentive schemes have more or less the same effect on absenteeism as they do on turnover.

A comparison of the 1972 and 1973 absenteeism curves shows that generally the absenteeism rates in 1973 were lower than those of 1972. The lower absenteeism rates in 1973 compared with those of 1972 may indicate that the whole incentive system of South Sea has been improving, and thus the absenteeism percentages are getting smaller. However, it may be at least partially due to the fact that generally speaking, the year 1973 in Hong Kong was not a good year: price indices for a lot of commodities shot up, and job

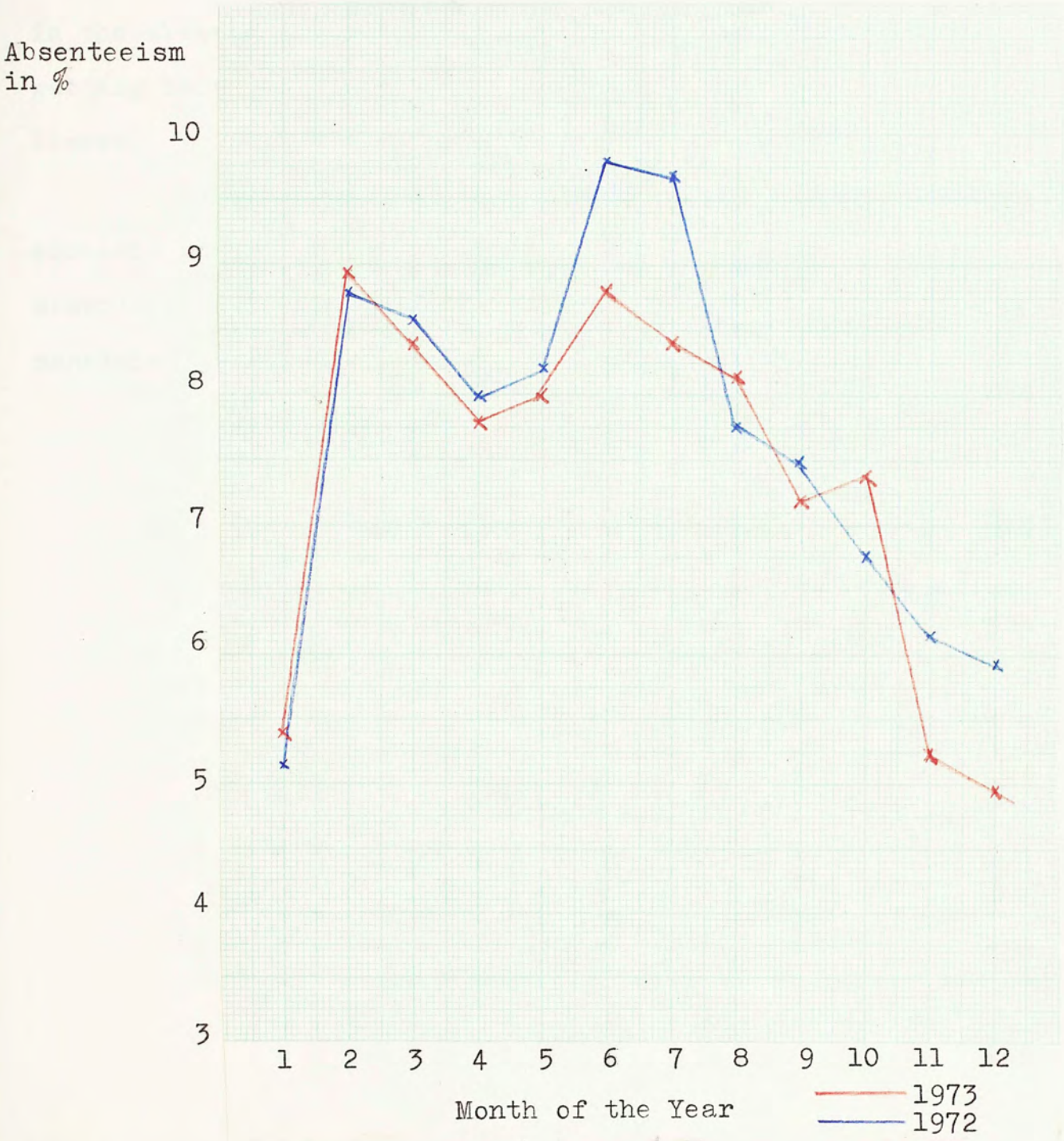
The following table shows the percentages of machine operators who took the fourth and fifty kinds of leaves during each month for 1972 and 1973. An absenteeism curve for each of the years is drawn for analysis.

TABLE 3.5.1

Absenteeism Percentages of Machine Operators at SSTMC from January 1972 to December 1973.

Month	1972	1973
January	5.13%	5.38%
February	8.74%	8.94%
March	8.59%	8.36%
April	7.99%	7.80%
May	8.21%	8.00%
June	9.82%	8.78%
July	9.63%	8.43%
August	7.75%	8.12%
September	7.50%	7.21%
October	6.77%	7.38%
November	6.16%	5.24%
December	5.94%	4.98%

Figure 3.5.1 Absenteeism Curves of the SSTMC Machine Operators in 1972 and 1973



1 = January 2 = February 3 = March 4 = April

5 = May 6 = June 7 = July 8 = August

9 = September 10 = October 11 = November 12 = December

opportunities in manufacturing industry were not so good as in 1972. These factors may have accounted to some degree of the drop in the absenteeism percentages: workers knew that "times were getting hard" and that they had to work harder and take fewer leaves.

It seems safe to conclude then, that while external economic conditions provided a certain incentive for avoiding absenteeism, simply for reasons of job security, the appeal of the monetary incentive schemes of SSTMC was enchanced.

3.6 Monetary Incentive Schemes And Labor Unrest

Since the company has no labor unrest or strike record, it was not possible to establish any relationship between monetary incentives and labor unrest. In the 1956 and 1967 Hong Kong disburtances, a lot of workers in other textile mills conducted strikes right in their mills, whereas SSTMC was an exception, something the Mill Personnel Manager is very proud of it. This may indicate that the management of SSTMC is more effective than its counterparts. Well-designed monetary incentive schemes are naturally one of the many factors contributing good management in a manufacturing company.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Comparisons of the Findings with the Ongoing Academic Work

Based on the correlational significance between each of the six monetary incentive schemes and job satisfaction of the machine operators of SSTMC, and the impact of monetary incentive schemes on productivity, turnover and absenteeism, the author is inclined to conclude that the monetary incentive schemes offered at SSTMC do relate to the job satisfaction of the machine operators, and that money is one of the most important motivators for them. Money as a motivator in this sense is a "need" rather than an "instinct" or a "drive".[1]

The author agrees with Maslow's theory that human being's needs are arranged in the way he arranges them (36), and that when one need level is satisfied, the next level will be activated. In the survey, the author found that most of the machine operators were confined to the first and second levels only, i.e., physiological needs and security for safety needs. The interviewers were very often told by the machine operators that their need for working hard and for minimizing their leaves was only for the sake of money. With money in their hands, they can contribute more to their families and assure their family members of enough food. Do they have the needs for social belonging and other higher level needs? The author tends to think that they do if they can manage to satisfy the first two needs. Nevertheless, due to the poor

---

[1] A thorough discussion of these terms is given in Chapter 1 (1.31).

educational background of most of the machine operators, only very few of them can get promotions to Unit Leader or Group Leader and extremely rarely to company staff. Although there are very few promotion opportunities, only a very small percentage of the machine operators complained about this. For those machine operators who stated that they "Agreed" or "Strongly Agreed" with Statement 11 of the questionnaire, "I dislike my work.", when asked which of the eight reasons given made them think so, only 8 out of 75 (with a percentage of 10.67) stated that it was due to few promotion opportunities.[1] The author assumes that this is perhaps due to the following two factors:

1. Most of the machine operators were already exhausted in struggling for the first two needs as hypothesized by Maslow, i.e., physiological needs and security for safety needs (36); as a result, it was more difficult for them to think of struggling for higher order needs.
2. Their poor education might limit their aspirations of struggling for higher esteem and status. The following is a table showing the educational background of the SSTMC machine operators by percentage.

---

[1] Please refer to Table 4.24.2 for details.

TABLE 4.1.1

Education Background of the Machine Operators

Educational level	Percentage
Self-education	2%
Primary Grade 1 to Grade 3	30%
Primary Grade 3 to Grade 6	67%
Secondary Grade 1 to Grade 3	1%

Source: Data furnished by the Mill Personnel Department

Nevertheless, quite a high percentage of the machine operators did look for "belonging" and social activities. For those machine operators who thought that the firm treated them "quite well" or "very well", (Question 7 of the Questionnaire) 242 out of 260 (with a percentage of 93.08) stated that it was because the firm provided a chance for people like him/her to stay together. Quite to the surprise of the author, 21 out of 123 of the machine operators (with a percentage of 17.07) who considered their job monotonous, stated from their own opinions that more social activities such as picnics, dancing parties, barbecues or variety shows organized by the firm would alleviate the problem.[1]

Furthermore, of those machine operators who stated that they "Agreed" or "Strongly Agreed" with the negative statement, "I dislike my work." (Question 11 of the Questionnaire), seven of them gave for their own reasons that it was because there was no time for them to socialize themselves. The above findings certainly

---

[1] Please refer to Table 4.22.1 for details.

show that some machine operators were looking for "belonging" and social activities.

Nevertheless, these findings cannot be considered a check of Maslow's theory since the higher needs are not involved.

For those machine operators who thought that the firm treated them "quite well" or "very well" (Question 7 of the Questionnaire), 20 out of 260, (with a percentage of 7.7) included "nice working environment"[1] as one of the reasons that made them think so. On the contrary, for those machine operators who stated that they "Agreed" or "Strongly Agreed" with Statement 11 of the Questionnaire, (i.e., "I dislike my work.") 40 out of 75 (with a percentage of 53.33) included "poor working environment"[2] as one of the factors that made them think so. This seems to be compatible with the hygiene-motivation of Herzberg (19) that a good working environment will not necessarily lead to job satisfaction, but that the lack of it will lead to job dissatisfaction. However, the author concedes that this again is not a good check of Herzberg's theory, as it is not the main concern of this study to find what are the true determinants of job satisfaction and job dissatisfaction. Nevertheless, it can serve as a reference to Herzberg's hygiene-motivation theory.

Following these same questions (questions 7.1 and 11.1) in the Questionnaire, 198 out of 260, with a remarkable percentage of 76.15 included "good monetary incentive schemes"[2] as one of the

---

[1] Please refer to Table 4.24.1 for details.

[2] Please refer to Table 4.24.2 for details.

[2] Please refer to Table 4.24.1 for details.

factors that made them think so. This seems to be indirect contradiction to Herzberg's assertation that wages and various fringe benefits are not really motivators since they cannot activate man to reach out, expand and grow (19).

From the example given in Chapter 3 (3.3), the author is inclined to agree with Taylor (53) that money is the most powerful motivator for productivity. One of the reasons contributing to the success of the RNBY is certainly due to the fact that "the increment that is in prospect is large enough relative to existing income" as pointed out by Gellerman (12).

4.2 Recommendations to the Firm Under Study

The author makes the following recommendation to SSTMC based on his observations and findings. Although they are made from the author's experience with SSTMC, he believes that some of the recommendations are also applicable to other spinning and weaving mills in Hong Kong.

4.21 The Importance of Cohesive Groups

As seen in Chapter 3 (3.22), the author found that the machine operators at SSTMC were a very cohesive group. This is reflected in Question 7.1 of the Questionnaire: 242 out of 260 who felt that the firm treated them "quite well" or "very well" included "the firm provided a chance for people like me to stay together"[1] as one of the factors. Again, when asked how they liked their fellow workers, 366 out of 407, with a remarkable percentage of 89.92 stated that they liked their fellow workers pretty much or very much.[2] Despite the fact that the topic "group dynamics" is not one of the subjects under investigation in this study, the author would like to point out a few things to the firm relative to it.

The author believes the main reason that the machine operators were so compatible and friendly with each other was their similar orientation (attitudes) and similar educational background and social status.[3]

---

[1] Please refer to Table 4.24.1 for details.

[2] Please refer to Table 3.22.3 for details.

[3] This is in accordance with the theories put forward by Heider (16) and Newcomb (41).

The current research generally shows that membership in a cohesive group helps increase job satisfaction and reduce absenteeism and turnover. The results of some research which is very applicable to the present study are shown below:

In a study of a group of textile workers who were required to adapt to changes in work methods, Coch and French (7) found that the turnover rates for the workers speeded up, but those who belonged to groups with a strong affiliation quit at a much lower rate, although they were against the company for the change in work methods. Mann and Baumgartel (34) concluded from their study that a sense of group belonging, group spirit, group pride or group solidarity on the part of the workers, relates inversely to rates of absenteeism. They found that in groups where workers were absent at least four times during a six-month period, only 21 per cent indicated that their work group was better than others in sticking together. However, 62 per cent of workers in groups with an average of only one absence during the six-month period indicated that there was a high cohesiveness among their members.

Tannenbaum pointed out that a cohesive group

> ... appears to have important effects on the adjustment of organization members. In a number of respects, workers who belong to cohesive groups appear better adjusted in the organization than those who do not have these informal attachments.

In the same book, he also indicated that

> Workers who belong to such groups are likely to have higher rates of job satisfaction and lower rates of tension, absenteeism and turnover than workers who do not belong to cohesive groups. The better adjustment of members of cohesive groups is due in part

to the satisfactions and psychological support that groups provide (52).

Despite the fact that one of the conclusion drawn from the famous Hawthorne experiments was that increased productivity was a function of improved human relations, many later researchers have pointed out that increased productivity is not the inevitable result of cohesive groups (52). It has been proved that when cohesive groups are formed in opposition to the organization, productivity will drop.

Coch and French, for example in their study of textile workers, found that workers in informal social groups lowered their productivity in order to resist innovations in work methods introduced by the firm, and informal social groups with a higher sense of cohesiveness even provided greater support to members who opposed the innovations (7). Another research, Seashore, showed that workers in cohesive groups were neither more nor less productive on the average than workers in non-cohesive groups. He only found that the cohesive groups workers were more uniform in their productivity, i.e., productivity was more or less the same for members in the same groups (47). Coch and French found that the uniformity in productivity was brought about through pressure against deviation and that these pressures could even affect the productivity of a newcomer to a certain group. They illustrated this with an example of a new female textile worker. It happened that the newcomer was very talented in performing her job, and she was able to exceed the group's production norm by about fifty units after only a few days. On the thirteenth day, the group applied their pressure by showing some feelings of antagonism, and the

newcomer's productivity dropped dramatically. On the twentieth day, the group was disbanded by transferring the rest of the members except for the newcomer to other production rooms. In the group's absence, the newcomer resumed her former level of productivity (7).

The author would like to point out, then, that the strong sense of cohesiveness among informal social groups of the machine operators at SSTMC could be an asset to the firm, if well-manipulated, but at the same time, it could be a liability to the firm. This is well illustrated by Tannenbaum:

> The informal group in organizations poses a paradox: groups can act with considerable effectiveness as law-enforcement agencies within the larger formal structure of the organization, but groups can direct the efforts of their members in opposition to organizational goals just as readily as they can direct members' efforts towards the support of these goals. This paradox caused students of organizations to wonder how they might harness the power of the cohesive group (52).

Thus a cohesive group will provide support for a certain member by strengthening him psychologically in his opposition to a source of dissatisfaction or frustration. In a study done by Stotland, he found that the subjects' reactions to a restrictive authority figure during the course of an experiment were affected by their opportunities to talk to other subjects. Unlike those who had no social contact, subjects who could contact others reacted with the following characteristics:

a. were more aggressive and hostile towards their supervisor;

b. disagreed with the supervisor more often;

c. expressed greater dissatisfaction with the supervisor's failure to give reasons for misbehavior and

d. agrued strenuously for their own positions as opposed to that of the supervisor (50).

As a result, how to direct the cohesive groups in positive ways is very important at SSTMC. Generally, the author feels that the management of SSTMC appreciates the importance of cohesive groups pretty much. As pointed out by the Chief Engineer of the spinning department, one of the goals of setting a group incentive for the RNBY was to direct the cohesive groups to attain a higher rate of productivity and a lower rate of absenteeism and was proved to be very successful.[1]

Although how to direct the cohesive groups in positive ways which are beneficial to the firm is situational, the management can follow these general guidelines suggested by the author to:

1. note the informal group leaders. This can be done by the supervisors who are in charge of the informal groups. Whenever there is a change in the production method, or an implementation of some schemes that will affect the machine operators, the supervisors or engineers can tell the informal group leaders first. This will certainly help the management refine the proposed methods or schemes and avoid possible objections from cohesive groups.

---

[1] Please refer to Chapter 3 (3.3) for details of this incentive scheme.

2. employ supervisors with higher education backgrounds. In fact, this has been practised by SSTMC for quite a long time. It is recommended that some lectures or seminars on social psychology, industrial psychology and behaviorial science be given to mill staff members with the rank of assistant engineer or above, so that they can know the dynamics of their inferiors better.
3. set up a special committee to deal with any negative feelings raised by a certain cohesive group towards the firm. This is to enable the firm to deal with the negative feelings from cohesive groups in a more efficient way.
4. encourage the cohesive groups to express their feelings freely concerning any company policies that are applicable to them. Despite the fact that Taylor's management principles (53) are still dominating practices for workers in manufacturing in Hong Kong, the author suggests that some of the participative management[1] techniques can be employed to a certain extent. The author considers the Suggestion Reward as discussed in Chapter 4 (4.22) is a good example to make a start.

---

[1] A detailed discussion of the scientific management approach and the participative management approach are presented in Chapter 1 (1.31) of this study.

4.22 Job Monotony and Remedies

In the survey, 123 machine operators stated that they felt that their jobs were monotonous. The following is a table showing the remedies they would like to take to alleviate this problem. Please note that the machine operators could state more than remedy.

TABLE 4.22.1

Remedies for Alleviating Job Monotony

Remedy	Number of Responses	As a percentage of 123
appeal to my superior(s) for improvement	80	65.04%
apply for transfer to another production room	60	48.78%
stay but reluctantly	20	16.26%
take more leaves	2	1.63%
demand more monetary incentives	98	79.68%
demand more basic wages	70	56.91%
leave the firm and get some other job	4	3.25%
Others, as suggested by the machine operators		
to organize more social activities, e.g., picnics, dancing parties, barbecues, variety shows, singing and other athletic contests.	21	17.07%
"I would follow the majority."	1	0.81%

The greatest number of responses are found under "demand more monetary incentives" with a percentage of 79.68. The author sees the machine operators being generally very receptive to those monetary incentives that will stimulate them to produce greater output. This is reflected by the smaller number of responses for "demand more basic wages." Probably in the machine operators' opinion, the monetary incentives are more "fun" than the basic wages. To produce a greater output than before does not only reward the machine operators with higher wages, but it can also give the machine operators a sense of achievement. This may be close to the achievement need as put forward by David McClelland (38).

As pointed out by the Chief Engineer of the Spinning Department, the posting of how many broken yarns per 1,000 spindles per payment period achieved by a certain workshop on the mill bulletin boards aroused a great deal of interest among the machine operators, especially the spinners from various workshops. He agreed with the author that the postings of the results would create a sense of competition among spinners of various workshops to reach a higher goal. This is also close to the theory of David McClelland, despite the fact that the sense of achievement may not be the same between the blue collar workers and the top management.

There is also an encouraging figure, 80 out of 123, with a percentage of 65.04 stating that they would take the remedy of "appeal to my superior(s) for improvement." This seems to coincide with the fact that out of 407 machine operators, more than 78 per cent of them showed a favorable attitude towards their immediate

supervisor(s)[1]. As contained in the Workers Handbook of SSTMC, 1968, there is a Suggestion Reward for all workers and staff:

> For any workers or staff, if they make written suggestions to Company Concerning:
>
> a. improving the work process;
>
> b. improving the machinery layout or other technical or clerical improvement;
>
> c. technical or clerical improvements that would save labor, increase efficiency or reduce the production wastes, save production costs or increase productivity and have been proved to be effective, will be rewarded in cash. The sum of reward would depend on the effect of the suggestion[2].

However, to the knowledge of the author and the interviewers, not many machine operators have made any of such suggestions to the company, and quite a number of the machine operators do not know about this particular incentive in detail. It is suggested that the firm should make use of the good relationship between the supervisors and the machine operators and the fact that quite a number of machine operators would appeal to their superior(s) for improvement when they found their jobs monotonous. The supervisors should take the responsibility of informing as many machine operators as possible about the Suggestion Reward and to encourage them to turn in their suggestions. It is the author's idea that the suggestion can also be made orally to engineers, as a lot of the machine operators cannot express themselves clearly in written

---

[1] Please refer to Table 3.22.4 for details.

[2] Direct translation from the Workers Handbook of SSTMC, 1968 by the author.

Chinese due to their inadequate education.[1] Those engineers who have collected a great number of suggestions for the machine operators either orally or in written forms should also be rewarded with a certain prize.

A further analysis of the sixty machine operators who stated that they would "apply for transfer to another production room" shows the following personal statistics:

TABLE 4.22.2

					Total
Sex	Male	Female			
Number	47	13			60
Maritus Status	Married	Single			
Number	9	51			60
Age	Under 20	20 to 30	Over 30		60
Number	23	37	0		
Educational background	Under Primary Grade 3	Primary 3 to 6	Secondary Grade 1 to Grade 3		
Number	13	45	2		60
Income	Under $200	$200 to $250	$250 to $300	Over $300	
Number	7	42	11	0	60

The reader can easily see that there were more male machine operators, who were single, under 30, with an average income of HK$200 to HK$250 and who had an educational background of Primary 3 to 6 would like to be transferred to some other production rooms for a change. The reasons, in the author's opinion are:

1. these male machine operators are more adventurous than the female machine operators;

---

[1] Please see Table 4.1.1 for educational background of the machine operators.

2. younger machine operators need more change in their jobs than the older machine operators;

3. those machine operators who are earning less than HK$300 currently per payment period would prefer to be transferred to some other production rooms, probably in the hope of earning more;

4. those machine operators who have received education up to Primary 3 probably have more imagination than those whose education is not up to Primary 3; they are more progressive in a way. For those machine operators whose education is up to secondary standard, when they find their jobs monotonous, they may prefer to leave the industry and look for new ventures since they are more qualified education-wise. This is reflected in the following table.

TABLE 4.22.3

Analysis of Those Machine Operators Who Would Leave the Firm

				Total
Sex		Male	Female	
Number		3	1	4
Maritus Status		Married	Single	
Number		0	4	4
Age	Under 20	20 to 30	Over 30	
Number	1	3	0	4
Income	Under $200	$200 to $250	Over $300	
Number	0	4	0	4
Tenure	Under 6 months	6 months to 1 year	Over 1 year	
Number	1	3	0	4

Despite the fact there were only 4 out of the 407 machine operators interviewed stating that they would leave the firm[1] to

[1] There seems to have been an economic regression starting in the latter half of 1973 continuing into early 1974 in Hong Kong.

Perhaps/.....

try their luck elsewhere, the reader can still clearly see the characteristics of such dissatisfied machine operators:

a. most of them are male and are single;

b. their income is less than HK$250 per payment period;

c. they have worked at SSTMC less than one year.

Quite to the surprise of the author, 21 out of 123 machine operators (with a percentage of 17.07) stated by themselves that if the company organized more social activities like picnics, dancing parties, barbecues, variety shows, singing and other athletic contests, it would help to alleviate the problem of job monotony. An analysis of the twenty-one respondents by the author shows the following personal statistics:

TABLE 4.22.4

Analysis of the 21 Respondents Who Stated That Social Activities Would Alleviate the Problem of Job Monotony.

Maritus Status	Married	Single
Number	2	19

Age	Under 20	20 to 30	Over 30
Number	14	7	0

Note: Only material considered relevant by the author are given.

(continuation of footnote 1 of last page)
Perhaps it is due to the generally unfavorable economic conditions existing in the Hong Kong manufacturing industry that there were not many machine operators in SSTMC thinking of leaving the firm for good.

The above table clearly shows that young and single machine operators are eager to have more social activities, and that they think that this would alleviate the problem of job monotony.

It is advisable for the management of SSTMC to organize more social activities of the type suggested by the twenty-one respondents. It is the opinion of the author that compared with the electronic industry, there are far fewer social activities of this type run by the management of the spinning and weaving industry. As the workers in the spinning and weaving industry are getting younger in the total population, it is recommended that the management should run more such activities to suit the younger workers.

4.23 Application of Monetary Incentive Schemes

As pointed out by H. K. Lai, there are both advantages and disadvantages[1] in implementing monetary incentive schemes in spinning mills. Nevertheless, he concluded that "there can be no doubt that well-devised financial incentive schemes can serve both management and workers well by increasing productivity and at the same time increasing the earnings of the employees" (30). The author shares his opinion. But the question is: "What attributes should an effective monetary incentive scheme have?" To this question, Hodge and Johnson have presented us a very concise answer. They point out that a good monetary incentive scheme should be:

1. Equitable.
2. Easily understood.
3. Directly related to effort.
4. Based on short payback periods.
5. Based on relevant standards.
6. Continuous rather than sporadic (20).

H. K. Lai has more or less the same conception when he states the requirements of financial incentive scheme:

1. It must try to ensure that there is equal reward for equal effort on similar or comparable types of operations.
2. It must be relatively simple to understand, and so applied that the workers can appreciate its general principles.

---

[1] See Appendix F for the advantages and disadvantages.

3. Management must ensure that adequate maintenance and revision of the scheme are carried out to cover changes in work methods, materials, and so on, as these occur.

4. Some form of quality control should prevent the emphasis on quantity, through incentives, from becoming predominant at the expense of quality.

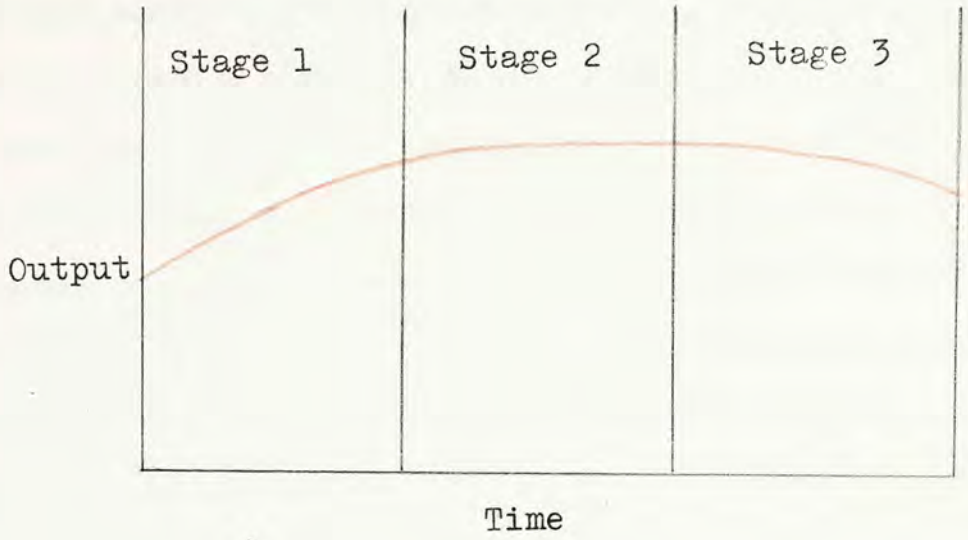
5. Management must ensure adequate work supplies and avoidance of delays by proper production planning and organization.

6. Quickness in effect--Variations in performance should be reflected as quickly as possible in the pay packet. The longer the period over which performance is calculated, the less apparent is the relationship between effort and reward and the less effective is the incentive (30).

The author considers the above guidelines very helpful for management in general to design monetary incentive schemes for workers.

It is recommended that more monetary incentives, both for individuals and for groups, be offered to machine operators of various production rooms in SSTMC. The RNBY as illustrated in Chapter 3 (3.3) is a good example to follow. Nevertheless, a good monetary incentive needs to be modified constantly to suit the ever-changing environment. If not, a monetary incentive may become "extinct" after a certain period of time. Normally, the implementation of a new or revised monetary scheme would result in an increase in output as the following curve:

Figure 4.23.1



Stage 1 is the initial period for the implementation of a new or revised monetary incentive scheme. Output is going up as more and more machine operators have confidence that they can reach the stipulated standard and consequently be rewarded by the monetary incentive scheme. Stage 2 is the maturity period, during which all qualified machine operators have been rewarded by the monetary incentive. Output reaches a peak in this stage, and it is very unlikely that a higher peak will be achieved unless the monetary incentive is increased to a greater sum of reward or some other stimulants are applied. Stage 3 is the deminishing stage as the machine operators are not so fascinated by the monetary incentive scheme as in the first and second stages. Furthermore, the monetary incentive may be considered as not large enough in amount, due to today's continuous inflation.

When a monetary incentive scheme reaches the end of Stage 3, it is always advisable for the management to think of another new monetary incentive or to revise the original monetary incentive. Of course, the easiest way is to increase the amount of monetary

reward.

Although money is the most important factor in implementing a certain monetary incentive scheme, the reader should not ignore the importance of other factors that help to make a certain scheme successful. Take for example, in digging out the underlying factors that made the RNBY so successful, the author and the engineers of the Spinning Department found that besides the monetary reward, there were also the following factors that fostered the implementation of the scheme:

1. To have machine operators with long tenure support the scheme. Generally, the tenure of the machine operators in SSTMC is long. Some have worked in the firm for more than twenty years. The following table shows the distribution of tenure of the machine operators:

TABLE 4.23.1

Distribution of Tenure of the Machine Operators at SSTMC

Tenure	Percentage of the Population
Less than 2 years	45%
2 to 5 years	28%
5 to 10 years	16%
More than 10 years	11%

Source: Data furnished by the Mill Personnel Department.

The younger machine operators usually take the advice of the machine operators with long tenure on deciding whether they will support a certain scheme or not. As a result, in carrying out the RNBY, the engineers first made a trial on the long tenure spinners. After having got approval from the long tenure spinners, the firm then announced the details of the scheme to the rest. The long tenure spinners would help the firm give confidence to other spinners.

2. To win approval from the cohesive group leaders. Normally the cohesive group leaders at SSTMC are those workers with long tenure and the function of the cohesive group leaders is the same as above.
3. To have cordial co-operation from the middle and the supervisory management. For example, the inspectors for broken yarns would have to be extremely fair and just. They should be fair enough not to take any bribery for reporting a fake number of broken yarns. Even more important, they should be courageous enough not to be affected by any possible threats from those spinners who are not qualified for this scheme.

From the above illustration, the reader can see that in carrying out a monetary incentive scheme, the management also has to consider a lot of human factors in addition to the monetary factor.

4.24 Good and Bad Qualities of the Firm as Perceived by the Machine Operators

The survey showed that the machine operators at SSTMC were generally satisfied with their jobs, and that more than 63 per cent of them had a favorable attitude towards the firm. But what "good" qualities of the firm made them think so? The following table presents the findings from the survey. Please note that the machine operators could state more than one aspect.

TABLE 4.24.1

Good Qualities of the Firm That made the Machine Operators Feel Favorable Towards the Firm.

Good Qualities	Number of Responses	As a Percentage of 260
good basic wages	2	0.97%
good monetary incentive schemes	198	76.115%
nice management	240	92.31%
nice welfare schemes, e.g., hostel and medical facilities etc.	219	84.23%
good working environment	20	7.70%
the firm provides a chance for people like me to stay together	242	93.08%
the firm provides a chance for me to learn some skills	50	19.23%
others, as suggested by the machine operators:	0	0.00%

Note: The figures in the above table are based on the findings from Question 7.1 of the Questionnaire. For Question 7, there were 260 interviewees stating that they thought the firm treated them "quite well" and "very well" and they were asked to state the reasons that made them think so by Question 7.1.

It will be more interesting to compare Table 4.24.1 with the following table, which is based on the findings from Question 11.1 of the Questionnaire. Following Question 11, those machine operators who stated that they disliked their work were invited to point out the reason(s) that made them think so.

TABLE 4.24.2

Factors That Made the Machine Operators Dislike Their Work.

Factors	Number of Responses	As a Percentage of 75
few promotion opportunities	8	10.67%
bad superior(s)	7	9.33%
heavy work-load	15	20.00%
poor working environment	40	53.33%
job monotony	75	100.00%
distasteful work group	15	20.00%
not enough monetary incentives	20	26.67%
poor basic salary	68	90.67%
Others, as suggested by the machine operators:		
no time for socializing themselves	7	9.33%
being looked down on by others	5	6.67%
"I am feeling very depressed."	1	1.33%
"I was deserted by my girlfriend because my income was low."	1	1.33%

Note: The figures in the above table are based on the findings from Question 11.1 of the Questionnaire. For Question 11, there were 75 interviewees stating that they "Agreed" or "Strongly Agreed" with the Statement: "I dislike my work." and they were asked to state the reasons that made think so by Question 11.1.

From the above two tables, the author has made the following tentative conclusions:

1. For those machine operators who dislike their, all of them indicated that one of the reasons was job monotony. The management of SSTMC should therefore make a greater effort to alleviate this problem. Some of the remedies for alleviating job monotony have already been discussed and analyzed in the previous sections of this Chapter.
2. Despite the fact that there were more machine operators who thought that the monetary incentives offered were good, the management should not stop introducing new monetary incentives and revising the present ones at any time for the reasons given in the previous sections. It is the author's opinion that the monetary incentives will also help the machine operators lessen the pressure generated from the heavy work load.
3. Quite a number of machine operators indicated that the working environment was not good enough (40 out of 75) and only 20 out of 260 thought that the firm provided them with a good working environment. It is the opinion of the author and the interviewers that the working environment of

SSTMC should be improved further.[1]

4. As pointed out in Chapter 3 (3.22), more than 78 per cent of the 407 machine operators interviewed showed a favorable attitude towards their immediate supervisor(s) and from Table 4.24.1, the reader can see that 240 out of 260, with a percentage of 92.31 indicated that one of the good qualities of the firm was nice management. This is a very fair finding, as the author has been informed from reliable sources that the management of SSTMC is one of the best among the textile factories in Hong Kong. The above fact also helps to explain the following table.

---

[1] The author understands that the management of SSTMC is very concerned with the working environment of the mill. In the Foreword of Appendix G, Mr. Jack C. Tang, Managing Director of SSTMC pointed out that:

> "Working conditions for our employees have always been foremost in our minds. The latest improvement is in the form of a refrigeration plant, on order, to supplement the air-conditioning system in our weaving shed. Temperature will be kept at approximately 26½ degree Centigrade throughout the year, as our spinning mill has been for years."

TABLE 4.24.3

Reasons for Machine Operators Came to Work at SSTMC

Reasons	Number of Responses	As a Percentage
you were looking for a job and happened to get this one	53	13.02%
you were introduced to this mill by your acquaintance who was working in this mill	327	80.34%
you have heard that the monetary incentive schemes offered by this mill are nice	9	2.21%
you have heard that the welfare schemes, e.g., hostel, medical service, bus service etc. offered by this firm are nice	15	3.69%
Others, as stated by the machine operators themselves:		
the firm is a big one and it is more stable to work in it	3	0.74%
Total	407	100.00%

Source: The findings of Question 4 of the Questionnaire.

From the above table, the reader can see that 80.34 per cent of the machine operators interviewed stated that they were introduced to the firm by their acquaintances who were working in the mill. Normally people making recommendations to others concerning a job, would include every nice and bad quality concerning the job and the company in order to make their decision as to whether the job is recommendable or not. As a result, for those machine operators who

were introduced to SSTMC by their acquaintances, there might be a lot of factors taken for granted which included good monetary incentives, nice welfare schemes, good supervisors, etc.

5. Generally the machine operators considered the basic wage rates not high enough. In fact, compared with workers of other fields such as garment, plastic ware, etc., the basic wage rates for spinning and weaving machine operators are low. However, they have more monetary incentives than their counterparts. As a result, monetary incentives for the machine operators, on the one hand, can be considered a stimulant to make them work harder, on the other hand, it is also a means of compensating their low basic wage rates. The author believes that the addition of monetary incentives is a way to make them feel more satisfied with their jobs. The reason is due to the fact that their needs for guaranteeing more income for family safety are met by the monetary incentives offered.

6. As pointed out in the previous sections, those machine operators who are single and under 30 view social activities as quite important to them. This is again reflected in Table 4.24.2 where seven machine operators stated that they dislike their work because they had no time to socialize themselves. All of them were either on the Night Shift or the Afternoon Shift. Consequently, the management, besides compensating them with the Extra Pay for Night Shift, should also think of other compensations for the Afternoon Shift and Night Shift machine operators, especially in the form of special social activities. The author understands that such activities are not easy for the firm to organize alone. However, the firm might consider

enlisting the cooperation of the workers themselves in planning the activities or co-sponsoring them with other voluntary youth centers such as the Caritas Youth Association, YMCA, YWCA, etc.

7. It is quite astounding to find that a very significant percentage (93.08 per cent) stated that one of the good qualities of working at SSTMC was that the firm provided a chance for people like them to stay together. Only 15 out of 75 thought that their fellow workers were distasteful. Again, this proves that the machine operators do look for belonging and social activities and take this as one of the sources of satisfaction of working at SSTMC.

APPENDIX A: QUESTIONNAIRE FOR SURVEYING MACHINE OPERATORS' ATTITUDES ON MONETARY INCENTIVE SCHEMES AND JOB SATISFACTION

The actual questionnaire used in this study was printed in Chinese. As some of the machine operators were either illiterate or knew only a few Chinese characters, the interviewers were advised to read out all choices for them; they then indicated to the interviewer which choice best described their attitudes. The Cantonese dialect was used during the interviews, therefore the questionnaire was first designed in Chinese with some Cantonese expressions used. In short, the author has tried to make the actual questionnaire as close to everyday spoken Chinese as possible. The following is a translation of the actual questionnaire.

THE LINGNAN INSTITUTE OF BUSINESS ADMINISTRATION
THE CHINESE UNIVERSITY OF HONG KONG

A SURVEY ON MONETARY INCENTIVE SCHEMES AND JOB SATISFACTION

Note: Please give your answers to the interviewer frankly. Your name will not be taken down, and we will not note your individual answers, as we are only concerned with the collective opinions. Thank you for your co-operation.

1. You are on the

( ) morning shift

( ) afternoon shift

( ) night shift

2. You are now working in which workshop and in which production room?

Spinning Workshop (1) (2) (3)	Weaving Workshop (1) (3)
( ) Blowing	( ) Re-winding
( ) Carding	( ) Warping
( ) Combing	( ) Sizing
( ) Drawing	( ) Drawing
( ) Roving	( ) Wefting
( ) Spinning	( ) Weaving
( ) Cone-winding	( ) Inspection
( ) Packing	( ) Packing

3. How long have you been working in this mill?

( ) Less than 6 months

( ) 6 months to 1 years

( ) 1 to 5 years

( ) 6 to 10 years

( ) 11 to 15 years

( ) 16 to 20 years

( ) more than 20 years

4. You came to work in this mill because

( ) you were looking for a job and happened to get this one.

( ) you were introduced to this mill by your acquaintance who was working in this mill.

( ) you have heard that the monetary incentive schemes offered by this mill are nice.

( ) you have heard that the welfare schemes, e.g., hostel, medical service, bus service etc. offered by this firm are nice.

Others, please state _____.

5. Do you consider your job monotonous?

Interesting	Not a bit	It's OK	Monotonous	Very monotonous

5.1 If you feel your job is monotonous, which of the following remedy(ies) would you like to take?

( ) appeal to my superior(s) for improvement

( ) apply for transfer to another production room

( ) stay but reluctantly

( ) take more leaves

( ) demand more monetary incentives

( ) demand more basic wages

( ) leave the firm and get some other job

Others, please state _____.

6. Do you think the Annual Bonus would make you take fewer leaves?

Definitely	Often	Sometimes	Rarely	No, I don't think so

7. How Do you feel the firm treats you?

Very Well	Quite Well	It's OK	Badly	Very Badly

7.1 If your answer for 7 is "quite well" or "very well", could you tell which of the following reason(s) make(s) you think so?

( ) good basic wages

( ) good monetary incentive schemes

( ) nice management

( ) nice welfare schemes, e.g., hostel and medical facilities etc.

( ) good working environment

( ) the firm provides a chance for people like me to stay together

( ) the firm provides a chance for me to learn some skills

Others, please state _____.

8. Do you think the Extra Pay for Night Shift would make you work on the Night Shift?

Definitely	Often	Sometimes	Rarely	No, I don't think so

9. How do you like your fellow workers?

Very much	Pretty much	They're OK	Dislike	Extremely dislike

10. Do you think the Extra Pay for Not Taking More than One 4-Hour Leave would make you take fewer leaves?

Definitely	Often	Sometimes	Rarely	No, I don't think so

11. I dislike my work.

Strongly disagree	Disagree	Slightly disagree	Agree	Strongly agree

11.1 If your answer for 11 is "agree" or "strongly agree," could you tell which of the following reason(s) make(s) you think so?

( ) few promotion opportunities

( ) bad superior(s)

( ) heavy work-load

( ) poor working environment

( ) job monotony

( ) distasteful work group

( ) not enough monetary incentives

( ) poor basic salary

Others, please state _____.

12. Do you think the Over-time Pay would make you take any over-time work?

Definitely	Often	Sometimes	Rarely	No, I don't think so

13. Which of the following words would you use to describe your immediate supervisor(s)?

Very good	Good	He's (They're) OK	Bad	Very bad

14. Do you think the Full Attendance Pay would make you take fewer leaves?

Definitely	Often	Sometime	Rarely	No, I don't think so

15. I am satisfied with my job.

Strongly agree	Agree	Slightly agree	Disagree	Strongly disagree

16. Do you think the Extra Pay for Working on Rest Days would make you work on your rest day(s)?

Definitely	Often	Sometimes	Rarely	No, I don't think so

17. Your sex is

( ) male

( ) female

18. Your marital status is

( ) single

( ) married

19. Your age is

( ) under 20

( ) 20 - 30

( ) 30 - 40

( ) 40 - 50

( ) over 50

20. Your educational background is

( ) self-education

( ) primary Grade 1 to Grade 3

( ) primary Grade 3 to Grade 6

( ) secondary Grade 1 to Grade 3

( ) secondary Grade 4 or above

THANK YOU VERY MUCH !

APPENDIX B: ACTUAL NUMBER OF MACHINE OPERATORS IN EACH PRODUCTION ROOM FOR EACH SHIFT, UNDER EACH WORKSHOP AND THE NUMBER OF MACHINE OPERATORS INTERVIEWED.

TABLE B.1

Actual Number of Machine Operators of the Spinning Workshop Number One and the Number of Machine Operators Interviewed

Production Room	Actual and Sampled Numbers of Machine Operators					
	Morning Shift		Afternoon Shift		Night Shift	
Blowing	3	(2)*	3	(1)*	3	(2)*
Carding	7	(3)	7	(4)	7	(3)
Combing	3	(1)	3	(2)	3	(1)
Drawing	5	(2)	5	(2)	5	(3)
Roving	11	(6)	11	(5)	11	(5)
Spinning	47	(24)	47	(24)	47	(23)
Cone-winding	30	(15)	30	(15)	30	(15)
Packing	15	(7)	15	(8)	15	(8)
Total	121	(60)	121	(61)	121	(60)

Total Number of Machine Operators in Spinning Workshop Number One of the Three Shifts = 363

Number of Machine Operators Interviewed = 34

*Number Interviewed

TABLE B.2

Actual Number of Machine Operators in Spinning Workshop Number Two and the Number of Machine Operators Interviewed

Production Room	Actual and Sampled Numbers of Machine Operators					
	Morning Shift		Afternoon Shift		Night Shift	
Blowing	1	(1)*	1	(1)*	1	(0)*
Carding	2	(1)	2	(1)	2	(1)
Combing	1	(1)	1	(1)	1	(0)
Drawing	1	(1)	1	(0)	1	(1)
Roving	2	(1)	2	(1)	2	(1)
Spinning	8	(4)	8	(4)	8	(4)
Cone-Winding	7	(4)	7	(3)	7	(3)
Total	22	(13)	22	(11)	22	(10)

Total Number of Machine Operators in Spinning Workshop Number Two of the Three Shifts = 66

Number of Machine Operators Interviewed = 34

*Number Interviewed

TABLE B.3

Actual Number of Machine Operators in Spinning Workshop Number Four and the Number of Machine Operators Interviewed

Production Room	Actual and Sampled Numbers of Machine Operators					
	Morning Shift		Afternoon Shift		Night Shift	
Blowing	1	(1)*	1	(0)*	1	(1)*
Carding	4	(2)	4	(2)	4	(2)
Combing	1	(1)	1	(1)	1	(0)
Drawing	2	(1)	2	(1)	2	(1)
Roving	3	(2)	3	(1)	3	(2)
Spinning	11	(5)	11	(6)	11	(5)
Cone-winding	6	(3)	6	(3)	6	(3)
Plying & Twisting	10	(5)	10	(5)	10	(5)
Total	38	(20)	38	(19)	38	(19)

Total Number of Machine Operators in Spinning Workshop Number Four of the Three Shifts = 114

Total Number of Machine Operators Interviewed = 58

*Number Interviewed

TABLE B.4

Actual Number of Machine Operators in Weaving Workshop Number One and the Number of Machine Operators Interviewed

Production Room	Actual and Sampled Numbers of Machine Operators					
	Morning Shift		Afternoon Shift		Night Shift	
Re-winding	11	(6)*	11	(5)*	11	(6)*
Warping	9	(5)	9	(4)	9	(4)
Sizing	3	(2)	3	(1)	3	(2)
Threading	14	(7)	5	(2)	0	(0)
Wefting	6	(3)	6	(3)	6	(3)
Weaving	22	(11)	22	(11)	22	(11)
Inspection	52	(26)	4	(2)	2	(1)
Packing	3	(1)	3	(2)	0	(0)
Total	120	(61)	63	(30)	53	(27)

Total Number of Machine Operators in Weaving Workshop Number One of the Three Shifts = 236

Total Number of Machine Operators Interviewed = 118

*Number Interviewed

TABLE B.5

Actual Number of Machine Operators in Weaving Workshop Number Three and the Number of Machine Operators Interviewed

Production Room	Actual and Sampled Numbers of Machine Operators					
	Morning Shift		Afternoon Shift		Night Shift	
Threading	4	(2)*	0	(0)*	0	(0)*
Wefting	2	(1)	2	(1)	2	(1)
Weaving	5	(3)	5	(2)	5	(3)
Inspection	7	(3)	0	(0)	0	(0)
Total	18	(9)	7	(3)	7	(4)

Total Number of Machine Operators in Weaving Workshop Number Three of the Three Shifts = 32

Total Number of Machine Operators Interviewed = 16

*Number Interviewed

TABLE B.6

Actual Number of Machine Operators in South Sea Textile Manufacturing Company Limited as of March 1974 and the Valid Sample Number

Actual Number = 811

Valid Sample Number = 407

APPENDIX C: TABLES SHOWING THE DEVELOPMENT OF THE HONG KONG TEXTILE INDUSTRY FROM 1947 TO 1973

TABLE C.1

ANNUAL INCREASE OR DECREASE OF
SPINDLE IN COTTON SPINNING MILLS, HONG KONG
(based on year-end figures)

Year - end	Number of spindles	Compared with previous year
1946	0	
1947	6,000	+6,000
1948	22,000	+16,000
1949	72,000	+50,000
1950	132,000	+60,000
1951	180,000	+48,000
1952	200,000	+20,000
1953	212,000	+12,000
1954	242,000	+30,000
1955	308,000	+66,000
1956	311,000	+3,000
1957	320,000	+9,000
1958	362,000	+42,000
1959	389,000	+27,000
1960	502,000	+113,000
1961	618,000	+116,000
1962	632,000	+14,000
1963	633,000	+1,000
1964	716,000	+83,000
1965	724,000	+8,000
1966	749,000	+25,000
1967	767,000	+18,000
1968	781,000	+14,000
1969	825,000	+44,000
1970	900,000	+75,000
1971	876,000	-24,000
1972	855,000	-21,000
1973	893,760	+38,760

Source: The Hong Kong Cotton Spinners Association

TABLE C.2

NUMBER OF LOOMS IN HONG KONG MILLS

Year - end	All Hong Kong (Estimated)	Registered in number mills of the Association
1947	2,600	
1948	2,791	
1953	3,500	
1954	5,400	
1955	7,000	2,567
1956	8,300	2,931
1957	9,900	3,201
1958	11,600	4,183
1959	13,500	4,404
1960	18,300	4,923
1961	20,100	6,444
1962	19,600	6,815
1963	19,900	7,048
1964	20,709	7,343
1965	21,198	7,656
1966	22,016	7,722
1967	23,148	8,169
1968	23,725	8,723
1969	23,189	9,372
1970	23,711	8,183
1971	24,900	8,663
1972	23,785	8,804
1973	25,000	9,523

Source: The Hong Kong Cotton Spinners Association

TABLE C.3

SPINDLEAGE AND EMPLOYMENT
in the Hongkong cotton spinning industry

Year - end	Number of workers	Number of spindles ('000)
1947	102	6
1948	405	27
1949	2,541	72
1950	7,374	132
1951	8,112	180
1952	8,925	200
1953	8,992	212
1954	10,046	242
1955	12,402	308
1956	13,939	311
1957	14,522	320
1958	11,510	362
1959	12,748	389
1960	15,623	502
1961	18,289	618
1962	20,506	632
1963	19,622	633
1964	19,606	716
1965	18,496	724
1966	18,942	749
1967	20,290	767
1968	20,352	781
1969	21,814	825
1970	21,957	900
1971	20,685	876
1972	19,191	855
1973	20,480	894

Source: The Hongkong Cotton Spinners Association

TABLE C.4

HONG KONG PRODUCTION OF
COTTON AND COTTON/MMF YARNS
(In Million Pounds)

YEAR	ANNUAL COTTON YARN Production	BLENDED YARN Production
1955	82*	
1956	95	
1957	108	
1958	127	
1959	140	
1960	173	
1961	214	
1962	235	
1963	240	1**
1964	261	2
1965	289	2
1966	292	12
1967	302	21
1968	325	20
1969	317	29
1970	327	35
1971	307	44
1972	254	63
1973	1st quarter 69	1st quarter 17
	2nd quarter 70	2nd quarter 18
	3rd quarter 75	3rd quarter 19
	4th quarter***	4th quarter***

* Cotton yarn production figures for years from 1947 - 1954 not available.

** Blended yarn production figures less than one million pounds prior to 1963

*** Not yet available in the February issue of Hong Kong Monthly Digest of Statistics.

Source: The Hong Kong Cotton Spinners Association.

TABLE C.5

HONG KONG COTTON YARN
EXPORTS AND RETAINED IMPORTS
(In Million Pounds)

YEAR	COTTON YARN EXPORTS	RETAINED COTTON YARN IMPORTS*
1953	31	7
1954	31	11
1955	32	9
1956	31	22
1957	33	30
1958	31	8
1959	29	64
1960	33	49
1961	35	25
1962	24	10
1963	22	25
1964	27	31
1965	31	26
1966	33	35
1967	25	35
1968	23	62
1969	26	72
1970	28	80
1971	22	117
1972	17	135**

* Yarn imports minus re-exports.

** Of this amount, over 131 million pounds, or about 97.5 per cent from Pakistan.

Source: The Hong Kong Cotton Spinners Association.

TABLE C.6

HONG KONG COTTON IMPORTS
(In 1,000 Cwt.)

YEAR	TOTAL IMPORTS	FROM U.S.A.	PERCENTAGE OF TOTAL
1949	358	N.A.	
1950	1,044	N.A.	
1951	589	N.A.	
1952	571*	2(US embargo)	0.4%
1953	753	--(US embargo)	---
1954	1,074	41	4%
1955	785	26	3%
1956	1,305	384	29%
1957	1,385	619	44%
1958	1,345	666	49%
1959	1,456	689	47%
1960	1,914	1,063	55%
1961	2,297	988	45%
1962	2,071	426	21%
1963	2,441	422	17%
1964	2,596	714	27%
1965	2,628	731	27%
1966	2,990	577	19%
1967	2,811	762	27%
1968	2,363	1,450	37%
1969	2,843	588	15%
1970	3,209	258	8%
1971	3,206	905	28%
1972	3,110	233	7%

* In these years, the bulk of cotton imported from Pakistan and African countries, about 70% in 1952 and 80% in 1953.

Source: The Hong Kong Cotton Spinners Association.

TABLE C.7

LABOR AND SPINDLE PRODUCTIVITY

YEAR	AVERAGE PRODUCTION OF COTTON YARN PER WORKER (In '000 Pounds)	AVERAGE PRODUCTION Per SPINDLE (Pounds)
1955	6.6	269
1956	6.8	313
1957	7.4	332
1958	11.1	354
1959	11.0	352
1960	11.1	346
1961	11.1	346
1962	11.4	372
1963	12.2	380
1964	13.3	364
1965	15.6	400
1966	15.3	390
1967	14.8	392
1968	16.0	416
1969	14.5	384
1970	14.9	364
1971	14.8	350
1972	13.2	300
1973	*	*

* Not yet available in the February issue of Hong Kong Monthly Digest of Statistics.

Note: These figures are only rough approximations without due regard to the variation in the proportion of yarn counts which change from year to year.
Moreover, for the last several years, 1969-72 in particular, the annual figures should be corrected because of an increasing part of spindleage being used to produce blended yarns, conservatively estimated at having risen to 25 per cent. This means, for example, for 1972 with an average 25 per cent of workers and spindles producing blended yarn, the adjusted figures for production per worker and per spindle have come up to 17.6 and 400 pounds respectively. This is as it should be with the use of improved machinery.

Source: The Hong Kong Cotton Spinners Association.

APPENDIX D: TABLES SHOWING THE CHI-SQUARE TEST OF THE EXPRESSED JOB SATISFACTION OF THE SSTMC MACHINE OPERATORS AND THEIR ATTITUDES ON EACH OF THE SIX MONETARY INCENTIVE SCHEMES.

Note: The first table shows the observed frequencies (fo), as sorted out by computer, and the expected frequencies (fe), as enclosed in brackets. The second table shows the squares of the observed frequencies (fo^2) and the third table shows the values of the fraction fo^2/fe. All values of the three tables are shown in corresponding cells.

TABLE D.A.1

Annual Bonus and job satisfaction--the observed frequencies (fo) and expected frequencies (fe)

B \ A	Extremely Satisfied and Satisfied	Fairly Satisfied	Dissatisfied and Extremely Dissatisfied	Total
Extremely Important and Important	5 (13,73)	21 (22.16)	18 (8.11)	44
Fairly Important	39 (54.61)	101 (88.15)	35 (32.25)	175
Not Important and No effect	83 (58.66)	83 (94.69)	22 (34.64)	188
Total	127	205	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Annual Bonus

TABLE D.A.2

Annual Bonus and Job Satisfaction--fo^2

25	441	324
1521	10201	1225
6889	6889	484

TABLE D.A.3

Annual Bonus and Job Satisfaction--fo^2/fe

1.82	19.90	39.95
27.85	115.72	37.98
117.44	72.75	13.97

From Table D.A.3

$$\sum_{i}^{r}\sum_{j}^{c} \frac{fo_{ij}^2}{fe_{ij}} = 447.38$$

since N = 407

Therefore, $\chi^2 = 447.38 - 407$

$= 40.38$

Since $40.38 > 13.277$

Therefore, the author is in a position to reject the null hypothesis. There is statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Annual Bonus.

TABLE D.B.1

Extra Pay for Night Shift and job satisfaction -- the observed frequencies (fo) and expected frequencies (fe)

A / B	Extremely Satisfied and Satisfied	Fairly Satisfied	Dissatisfied and Extremely Dissatisfied	Total
Extremely important and important	51 (34.64)	38 (55.91)	22 (20.46)	111
Fairly important	46 (56.79)	102 (91.67)	34 (33,54)	182
Not important and no effect	30 (35.57)	65 (57.42)	19 (21.01)	114
Total	127	205	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Extra Pay for Night Shift

TABLE D.B.2

Extra Pay for Night Shift and job satisfaction--fo^2

2601	1444	289
2116	10404	1156
900	4225	361

TABLE D.B.3

Extra Pay for Night Shift and job satisfaction--fo^2/fe

75.07	25.83	14.13
37.26	113.49	34.47
25.30	73.58	17.18

From Table D.B.3

$$\sum_{i}^{r}\sum_{j}^{c}\frac{fo_{ij}^{2}}{fe_{ij}} = 416.31$$

Since N = 407

Therefore, χ^2 = 416.31 - 407

= 9.31

Since 9.31 < 13.277

Therefore, the author fails to reject the null hypothesis. There is no statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Extra Pay for Night Shift.

TABLE D.C.1

Extra Pay for Not Taking More than One 4-Hour Leave and job satisfaction--the observed frequencies (fo) and expected frequencies (fe)

A / B	Extremely Satisfied and Satisfied	Fairly Satisfied	Extremely Dissatisfied and Dissatisfied	Total
Extremely important and important	75 (68.96)	94 (111.31)	52 (40.73)	221
Fairly important	44 (49.30)	100 (79.58)	14 (29.12)	158
Not important and no effect	8 (8.74)	11 (14.10)	9 (5.16)	28
Total	127	205	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Extra Pay for Not Taking More than One 4-Hour Leave.

TABLE D.C.2

Extra Pay for Not Taking More than One 4-Hour Leave and job satisfaction--fo^2

5625	8836	2704
1936	10000	196
64	121	81

TABLE D.C.3

Extra Pay for Not Taking More than One 4-Hour Leave and job satisfaction--fo^2/fe

81.57	79.38	66.39
39.27	125.66	6.73
7.32	8.58	15.70

From Table D.B.3

$$\sum_{i}^{r}\sum_{j}^{c}\frac{fo_{ij}^{2}}{fe_{ij}} = 430.60$$

Since N = 407

Therefore, χ^2 = 430.60 - 407

= 23.60

Since 23.60 $>$ 13.277

Therefore, the author is in a position to reject the null hypothesis. There is statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Extra Pay for Not Taking More than One 4-Hour Leave.

TABLE D.D.1

Overtime Pay and job satisfaction--the observed frquencies (fo) and expected frequencies (fe)

A / B	Extremely Satisfied and Satisfied	Fairly Satisfied	Dissatisfied and Extremely Dissatisfied	Total
Extremely important and important	86 (72.71)	114 (117.36)	33 (42.94)	233
Fairly important	34 (37.45)	58 (60.44)	28 (22.11)	120
Not important and no effect	7 (16.85)	33 (27.20)	14 (9.95)	54
Total	127	205	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Overtime Pay

TABLE D.D.2

Overtime Pay and job satisfaction--fe^2

7396	12996	1089
1156	3364	784
49	1089	196

TABLE D.D.3

Overtime Pay and job satisfaction--fo^2/fe

101.72	110.74	25.36
30.87	55.66	35.46
2.91	40.04	19.70

From Table D.D.3

$$\sum_{i}^{r}\sum_{j}^{c}\frac{fo_{ij}^{2}}{fe_{ij}} = 422.46$$

Since N = 407

Therefore, χ^2 = 422.46 - 407

= 15.46

Since 15.46 > 13.277

Therefore, the author is in a position to reject the null hypothesis. There is statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Overtime Pay.

TABLE D.E.1

Full Attendance Pay and job satisfaction --the observed frequencies (fo) and expected frequencies (fe)

A / B	Extremely Satisfied and Satisfied	Fairly Satisfied	Dissatisfied and Extremely Dissatisfied	Total
Extremely important and important	94 (73.64)	107 (118.87)	35 (43.49)	236
Fairly important	23 (44.62)	93 (72.03)	27 (26.35)	143
Not important and no effect	8 (8.74)	7 (14.10)	13 (5.16)	28
Total	125	207	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Full Attendance Pay

TABLE D.E.2

Full Attendance Pay and job satisfaction--fo^2

8836	11449	1225
529	8649	729
64	49	169

TABLE D.E.3

Full Attendance Pay and job satisfaction--fo^2/fe

119.99	96.32	28.17
11.86	120.08	27.67
7.32	3.48	32.74

From Table D.E.3

$$\sum_{i}^{r}\sum_{j}^{c}\frac{fo_{ij}^{2}}{fe_{ij}} = 447.63$$

Since N = 407

Therefore, χ^2 = 447.63 - 407

= 40.63

Since 40.63 > 13.277

Therefore, the author is in a position to reject the null hypothesis. There is statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Full Attendance Pay.

TABLE D.F.1

Extra Pay for Working on Rest Day and job satisfaction--the observed frequencies (fo) and expected frequencies (fe)

A / B	Extremely Satisfied and Satisfied	Fairly Satisfied	Dissatisfied and Extremely Dissatisfied	Total
Extremely important and important	48 (33.39)	42 (53.89)	17 (19.72)	107
Fairly important	59 (61.78)	100 (99.73)	39 (36.49)	198
Not important and no effect	20 (31.83)	63 (51.38)	19 (18.80)	102
Total	127	205	75	407

A = Machine Operators' attitudes on job satisfaction

B = Machine Operators' attitudes on Extra Pay for Working on Rest Day

TABLE D.F.2

Extra Pay for Working on Rest Day and job satisfaction--fo^2

2304	1764	289
3481	10000	1521
400	3969	361

TABLE D.F.3

Extra Pay for Working on Rest Day and job satisfaction--fo^2/fe

69.00	32.73	14.66
56.35	100.27	41.68
12.57	77.25	19.20

From Table D.F.3

$$\sum_{i}^{r}\sum_{j}^{c}\frac{fo_{ij}^{2}}{fe_{ij}} = 423.71$$

Since N = 407

Therefore, χ^2 =423.71 - 407

=16.71

Since 16.71 > 13.277

Therefore, the author is in a position to reject the null hypothesis. There is statistical significance between the expressed job satisfaction of the machine operators of SSTMC and the Extra Pay for Working on Rest Day.

APPENDIX E: DESCRIPTION OF THE LONG SERVICE BONUS

The Long Service Bonus became effective at SSTMC on April 16, 1970. It is a non-contributory gratuity payment to machine operators and general workers. However, after the establishment of this incentive scheme, the cash outlay for each year became so great that SSTMC had to terminate it in 1972. (It was also partly due to the sharp decline of profit of SSTMC in 1972.) As stated in the Monetary Incentives and Allowances Handbook, July 1973 edition of SSTMC, the Long Service Bonus is only for those machine operators and general workers who had attained the title regular workers of the firm before December 31, 1971. There are two kinds of Long Service Bonus for them: they can either take the Type A Long Service Bonus or the Type B Long Service Bonus. The machine operators can choose either of the two types, but once the choice has been made, they are not allowed to make any change afterwards. The Type A of Long Service Bonus is paid to those machine operators who have worked two years continuously at SSTMC; they are entitled to HK$500 at the end of every two years' service. The Type B Long Service Bonus is paid to those machine operators upon termination of employment who have stayed in the firm continuously for two years or more. It is rewarded by the following system:

1. Under 5 years of service, HK$500;
2. For 5 years of service, HK$2,000;
3. For 5 to 9 years of service, the worker will be rewarded with an annual increment of HK$400 to 9 full years, HK$3,600.
4. For 10 to 14 years of service, the worker will be rewarded with an annual increment of HK$500 to 14 full years, HK$6,100.

5. For 15 to 19 years, the worker will be rewarded with an annual increment of HK$700 to 19 full years, HK$9,600

6. For 20 to 24 years of service, the worker will be rewarded with an annual increment of HK$1,000, to 24 full years, HK$14,600.

7. For 25 to 30 years of service, the worker will be rewarded with an annual increment of HK$1,400, up to 30 full years, or more, HK$23,000.

Those machine operators who worked at SSTMC prior to January 1, 1970, are entitled to an amount calculated on a one-year-for-one-month basis, i.e., each year's service, will be counted as one qualified month for either kind of Long Service Bonus. Thus a machine operator who has worked at SSTMC for 12 years prior to January 1, 1970, will be entitled to an accumulated gratuity bonus of 12 months, i.e., one year.

The following Table shows the amount drawn by workers per year and number of workers who benefited from the Type A Long Service Bonus after its establishment in 1970.

TABLE D.1

Number of Workers Who Benefited From the Type A Long Service Bonus and the Amount Drawn per year

Year	Amount Drawn	Number of Workers Benefited
1970	HK$ 42,500.00	85
1971	353,500.00	706
1972	337,500.00	675
1973	368,500.00	737

Source: Data furnished by the Mill Accounting Department

APPENDIX F: ADVANTAGES AND DISADVANTAGES OF INTRODUCING MONETARY INCENTIVE SCHEMES (30)

ADVANTAGES:

1. When well designed and properly applied, payment by results can generally be relied upon to yield increased output, lower costs of production, and higher earnings for the workers.

2. Work study associated with payment by results is a direct stimulus to improve the organization of work and to eliminate lost time and other waste.

3. Labor and total costs per unit of output can be estimated more accurately in advance.

4. Less direct supervision is needed to keep output up to a reasonable level.

DISADVANTAGES:

1. There is a tendency for quality to deteriorate unless there is a strict system of checking and inspection.

2. Payment by results may lead to opposition or restriction of output when new machines and methods are proposed or introduced. This is because of the fear that the job may be restudied and earnings reduced.

3. When paid by results, workers tend to regard their highest earnings as normal and therefore to press for a considerably higher minimum wage.

4. The amount and cost of clerical work is increased.

5. There is a danger of disregarding safety regulations and thereby increasing accidents.

6. Some workers tend to overwork and to undermine their health.

7. Jealousies may arise among workers because some are able to earn more than others or because fast workers are dissatisfied with slower or older workers in the group.

8. It is difficult to set piece or bonus rates accurately. If they are too low, workers may be under pressure to work too hard and become dissatisfied; if too high, they slacken their efforts to avoid a revision of rates.

LIST OF REFERENCE

(1) Barnett, G.J., Handelsman, I., Stewart, L.H., and Super, D.E. "The Occupational Leval Scale as A Measure of Drive," Psychol. Monogr., 1952, vol. 66, No. 10 (whole No. 342).

(2) Beer, M., "Organizational Size and Job Satisfaction" Academy of Management Journal: Vol. 7 (March, 1964).

(3) Blalock, Jr. H.M., Social Statistics, 1966 New York: McGraw-Hill.

(4) Brayfield, A.H., and Crockett, W.H., "Employee Attitudes and Employee Performance," Psychological Bulletin, vol. 52, 1955.

(5) Brayfield, A.H., and Rothe, H.F., "An Index of Job Statisfaction," Journal of Applied Psychology, vol. 35 (1951).

(6) Centers, R., and Cantril, H., "Income Satisfaction and Income Aspiration," Journal Abnorm. Soc. Psychology, 1946, vol. 41.

(7) Coch, L., and French, J.R.P., Jr., "Overcoming Resistance to Change," Human Relation, vol. 1 (1948).

(8) Dunn J.D. and Stephens F.C., Management of Personnel: Manpower Management and Organizational Behavior, New York: McGraw Hill, 1972.

(9) Espy, J.L., "Hong Kong Textiles, Ltd.," prepared under the supervision of Professor Raymond Vernon as part of the requirements of the Doctoral Program at the Harvard University Graduate School of Business Administration. Distributed by the Intercollegiate Case Clearing House. Soldiers Field, Boston, Mass. 02163. All rights reserved to the contributors. Printed in the U.S.A.

(10) Freud, S., The Basic Writings of Sigmund Freud, New York: Random House, Inc., 1965.

(11) Gellerman, S.W., Motivation and Productivity, 1970, by the American Management Association, Inc.

(12) Gellerman, S.W., Management by Motivation, 1968, by the American Management Association, Inc.

(13) General Motors Corporation, Your Job, An Attitude Questionnaire prepared by the Employee Research Section, General Motors Corporation, Detroit, 1949.

(14) Guion, R.M., "Industrial Morale (A Symposium) 1, the Problem of Terminology," Personnel Psychology, 1958, vol. 11.

(15) Hamburg, M., Statistical Analysis for Decision Making, 1970, the Harbrace Series in Business and Economics.

(16) Heider F., The Psychology of Interpersonal Relations, New York: Wiley, 1958.

(17) Herzberg, F., Work and the Nature of Man, Cleverland: World Publishing, 1966.

(18) Herzberg, F., Mausner, B., Peterson, R.O., and Capwell, D.F., "Job Attitudes: Reivew of research and opinion," Pittsburgh: Psychological Service of Pittsburgh, 1957.

(19) Herzberg, F., Mausner, B., Snyderman, B.B., The Motivation to work, New York: Wiley, 1959.

(20) Hodge, B.J., and Johnson, H.J., Management and Organizational Behavior, New York: Wiley, 1970.

(21) Hong Kong Annual Report, 1953, published by the Hong Kong Government.

(22) The Hong Kong Cotton Spinners Association, Textile Handbook, 1970, printed by the Green Pagoda Press Ltd.

(23) The Hong Kong Cotton Spinners Association, Twenty Five Years of the Hong Kong Cotton Spinning Industry, June, 1973.

(24) Hong Kong Monthly Digest of Statistics, January, 1974, published by the Census and Statistics Department, Hong Kong Government.

(25) Hoppock, R., Job Satisfaction, New York: Harper, 1935.

(26) Ivancevich, J.M., and Donnelly, J.H., "Job Satisfaction Research: A Management Guide for Practitioners," Personnel Journal, vol. 47 (March, 1968).

(27) Jones, P.H.M., (ed.) Asian Textile Survey, 1969 - 70, published by the Far Eastern Economic Review Ltd., printed by the South China Morning Post Ltd., Hong Kong.

(28) Jones, P.H.M., and Sung, K., (eds.) Asian Textile Survey, 1967 - 1968, published by the Far Eastern Economic Review Ltd. and printed by South China Morning Post Ltd., Hong Kong.

(29) Kunin, T., "The Construction of a New Type of Attitude Measure," Personnel Psychology, vol. 1, no. 8, 1955.

(30) Lai, H.K., "A Study of the Incentive Systems in the Textile Industry of Hong Kong," a paper submitted in partial fulfillment of the requirements for the Master of Business Administration Degree, the Graduate School of the Chinese University of Hong Kong, June, 1971.

(31) Likert, R., New Patterns of Management, New York: McGraw Hill, 1968.

(32) Likert, R., and Willits, J.M., Morale and Agency Management, vol. 1, Morale - the main spring of management" Hartford: Life Insurance Sales Research Bureau, 1940.

(33) Maier, N.R.F., and Hayes, J.J., Creative Management, New York: Wiley, 1972.

(34) Mann, F.C., and Baumgartel, H.G., Absences and Employee Attitudes in An Electric Power Company, Survey Research Center, University of Michigan, 1952.

(35) Marriott, R., and Denerley, R.A., "A method of interviewing used in studies of workers' attitudes: II. Validity of the method and discussion of the results," Occupation Psychology, vol. 29, 1955.

(36) Maslow, A.H., Motivation and Personality, New York: Harper, 1968.

(37) Mayo, E., The Human Problems of an Industrial Civilization, New York: the Macmillan Co., 1960.

(38) McClelland, D.C., The Achieving Society, Princeton, New Jersey: Van Nostrand, 1970.

(39) McGregor, D.M., "The Human Side of Enterprise," in Adventures in Thought and Action, Proceedings of the Fifty Anniversary Convocation of the School of Industrial Management, Massachusetts Institute of Technology, 1957.

(40) Miller, D.C., "Economic factors in the morale of college-trained adults," American Journal of Sociology, vol. 47, 1970.

(41) Newcomb, T.M., The Acquaintance Process, New York: Holt, 1970.

(42) Patchen, M., The Choice of Wages Comparison, Englewood Cliffs, New Jersey: Prentice-Hall, 1966.

(43) Porter, L.W., and Lawler E.E., "What Job Attitudes Tell About Motivation," Harvard Business Review: vol. 46 (January, 1968).

(44) Ross, I.C., and Zander, A., "Need Satisfactions and Employee Turnover," Personnel Psychology, vol. 10, 1957.

(45) Salinas, R.C., "An Exploratory Study of Job Satisfaction Attitudes Among Non-academic University Personnel," Master thesis, New York State School of Industrial and Labor Relations, Cornell University, 1964.

(46) Science Research Associates, Inc., a subsidiary of IBM, 259 East Erie Street, Chicago, III. 60611.

(47) Seashore, S.E., Group Cohesiveness in the Industrial Work Group, Survey Research Center, University of Michigan, 1954.

(48) Sirota, D., "A Study of Work Measurement," Proceedings of the Sixteen Annual Meeting of Industrial Relations Research Association: 1964, Madison, Wisconsin.

(49) Smith, P.C., Professor of Psychology at Bowling Green University, Bowling Green, Kentucky, U.S.A.

(50) Stotland, E., "Peer Groups and Reactions to Power Figures," in D. Cartwright (ed.), Studies in Social Power, Institute for Social Research, University of Michigan, 1959.

(51) Tannehill, R.E., Motivation and Management Development, Butterworths, 1970.

(52) Tannenbaum, A.S., Social Psychology of the Work Organization, Wadsworth, 1970.

(53) Taylor, F.W., Scientific Management, New York: Harper, 1960.

(54) Thompson, W.A., "Eleven years after graduation," Occupations, vol. 17, 1939.

(55) Vroom, V.H., "Industrial social psychology," in G. Lindzey and E. Aronson (eds.), The Handbook of Social Psychology, vol. 5, Addison - Wesley, 2nd edn. 1969.

(56) Vroom, V.H. Work and Motivation, New York: Viley, 1970.

(57) White, R., and Lippett, R., Autocracy and Democracy, Harper & Row, Publishers, Inc., 1968.

APPENDIX G

COTTON

POLYESTER

POLYNOSIC

ACRYLIC

TEXTILE S

SOUTH SEA TEXTILE MFG. CO. LTD.

HONG KONG

SOUTH SEA TEXTILE MANUFACTURING COMPANY, LIMITED
HONG KONG

OFFICE : 5TH FL. EDINBURGH HOUSE
HONG KONG
Cable Address: SOUSEATEX
Telephone: 224056

FACTORY : 9½ Milestone, Castle Peak Road
Kowloon, N. T. HONG KONG
Telephone: 404321-4

FOREWORD

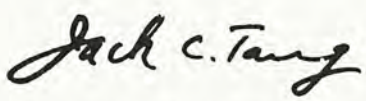
It is with pride that we present this issue of our brochure commemorating our 21st birthday, as we started production in October 1948. As in a person's life, a milestone has been reached. We have now passed childhood and have entered into maturity with a vigorous and challenging future ahead. This milestone also coincides with the changeover from an all cotton operation in 1964, at the time our company went public, to a current spinning capacity of more than 50% in synthetic blends.

As in the past, we continue to strive for high productivity in spite of a labor shortage which will last for the foreseeable future. The only way to overcome this labor shortage, and still maintain or improve productivity, is through investment in automatic machinery. Also, every effort is being made to maintain our policy of rigid quality control to make sure that we shall always be proud of the products carrying our brand name, "FLYING FISH".

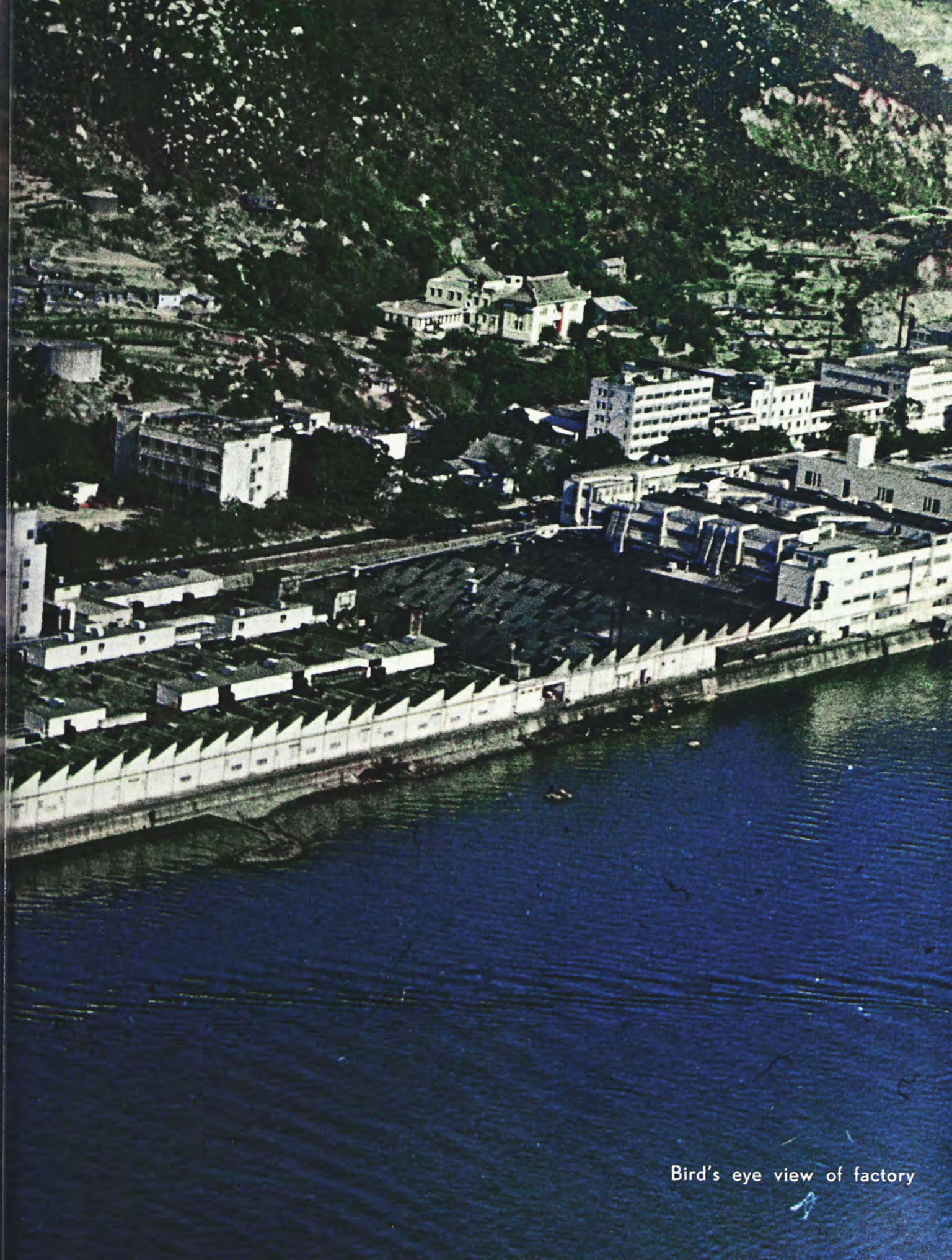
Working conditions for our employees have always been foremost in our minds. The latest improvement is in the form of a refrigeration plant, on order, to supplement the airconditioning system in our weaving shed. Temperature will be kept at approximately 26½° Centigrade throughout the year, as our spinning mill has been for many years. In addition, we have recently remodelled the employees' canteen so that now we are able to offer food of three different provinces.

Our system of combining the advantages of education and vocational training through the South Sea English Secondary School within the Mill has gradually expanded to over 300 worker-students. The school functions along the lines prescribed by the Colony's education system, to enable students to sit for the Hong Kong Certificate of Education (English) Examination. It has been a great success, proven by the fact that, since the first graduating class, over 86% of our students sitting for examinations in seven subjects have passed, as against a Colony average of about 60% in the same subjects.

Today we are faced with yet another challenge – the uncertainty on the horizon for the textile industry in the much discussed restrictions on synthetic and wool textiles. In the past Hong Kong has been faced with many crises. In particular, the textile industry in Hong Kong has been dealt with many blows and survived. With the constant and unfailing support of our faithful friends, here and abroad, we hope we shall continue to grow and prosper.



Jack C. Tang
Managing Director



Bird's eye view of factory

Reception Hall

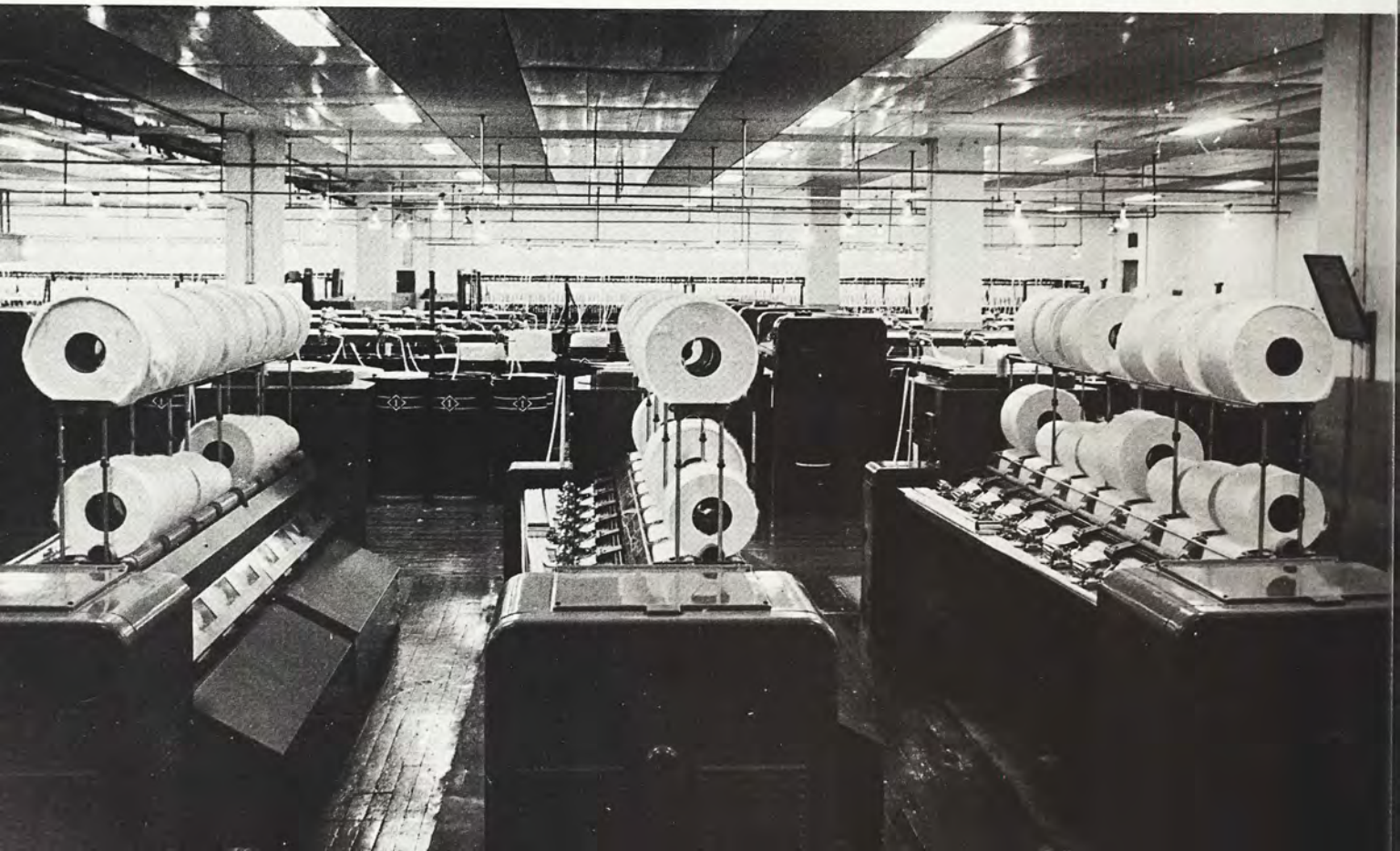
Display Room

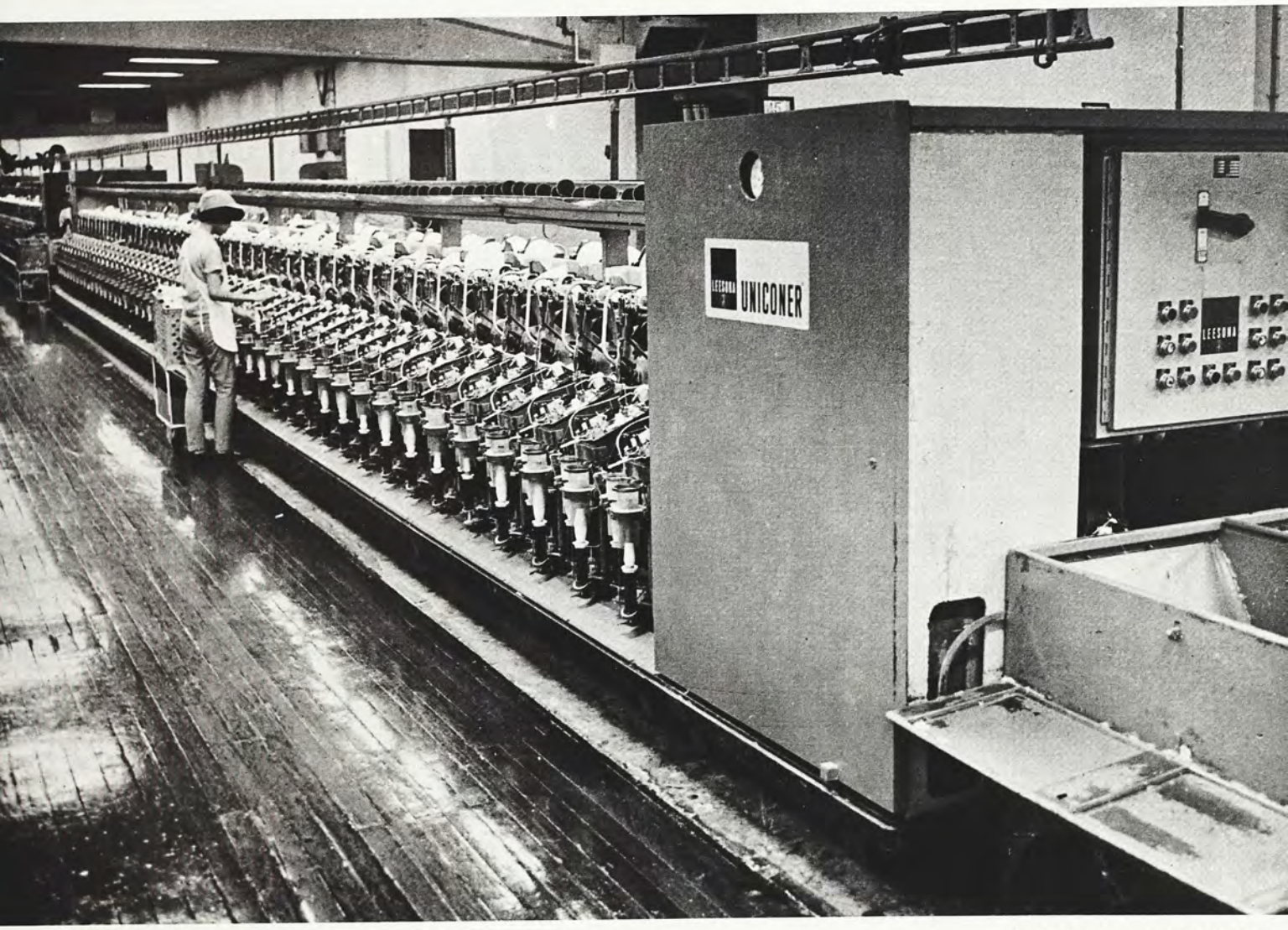
Main-Gate

Ring Frames

Fully Air-conditioned Ring Spinning Room for Polyester/Cotton Spinning.

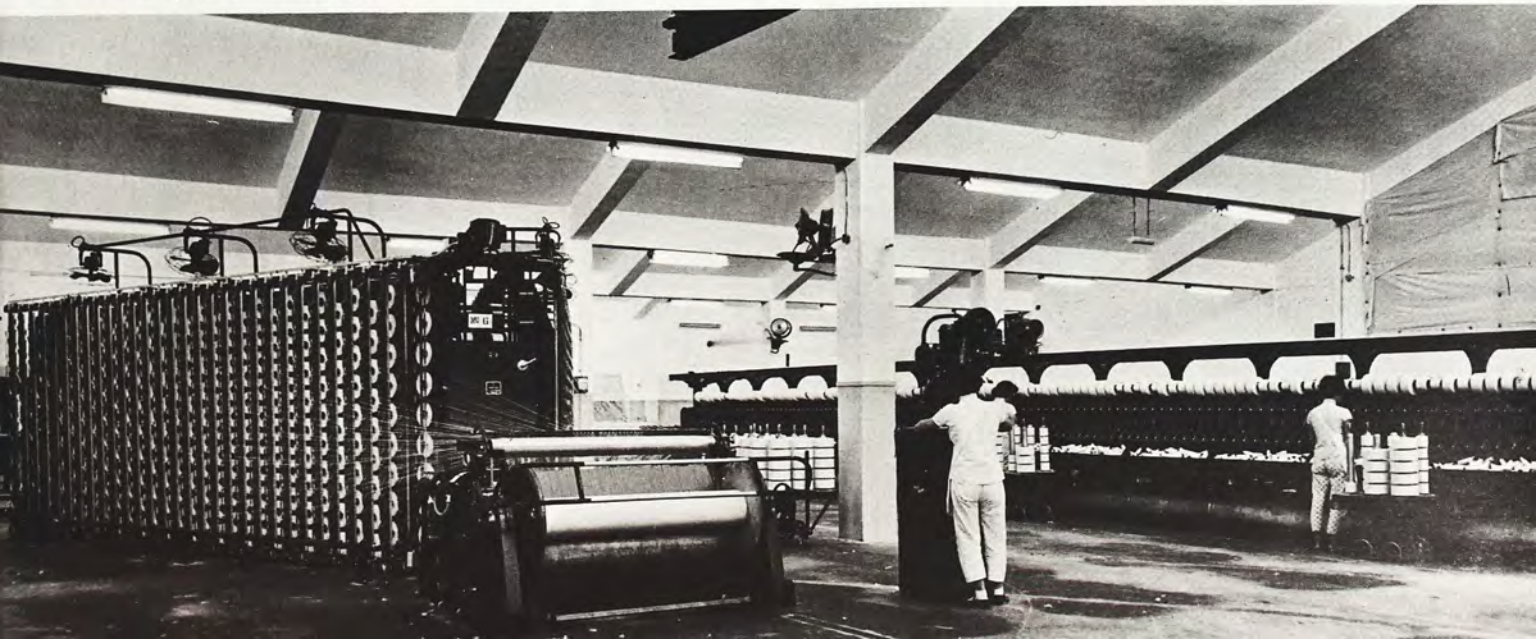
Latest Model High Speed Combers, Drawing & Speed Frames for Polyester Blendings.





High Speed Automatic Winders.

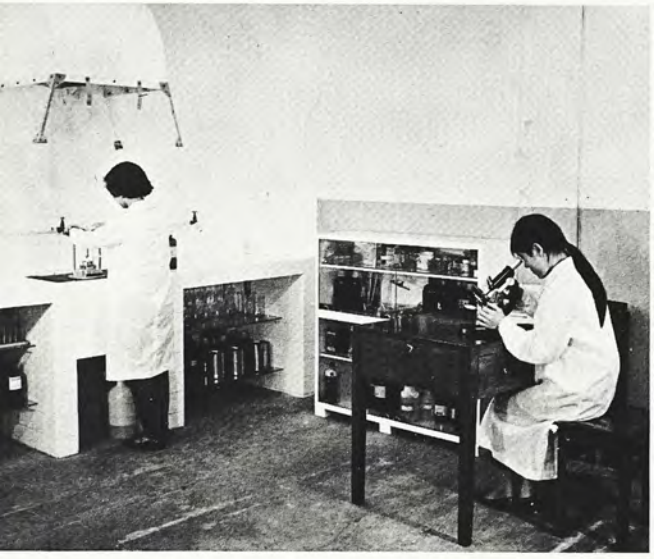
Automatic Spoolers and Warpers



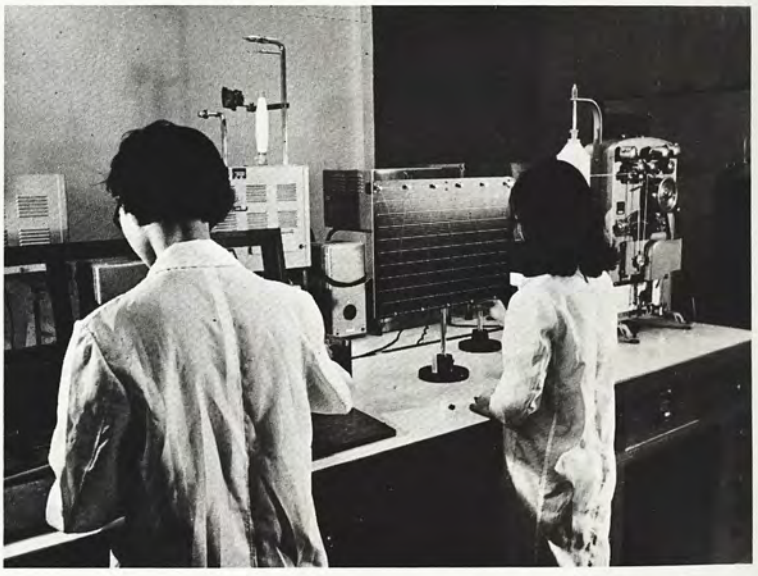
High Speed Fully Automatic Looms with Unifil Winders.

"Pressley" Cotton Fibre Strength Tester
"Micronaire" Cotton Fibre Fineness Tester

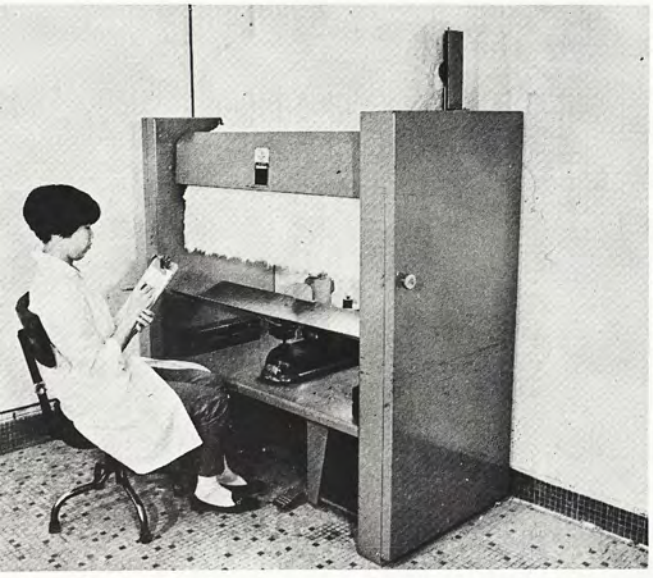
"Fibrograph" Cotton Fibre Length Tester



Chemical Laboratory

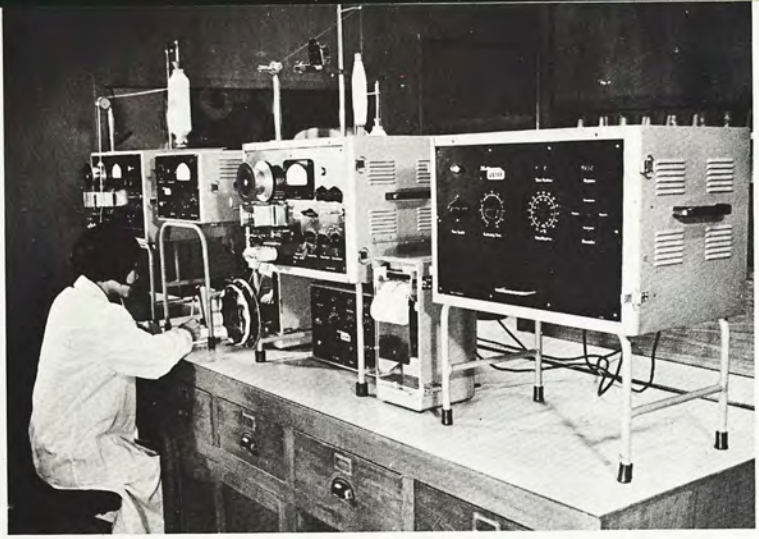


Twist Tester & Roving Tester

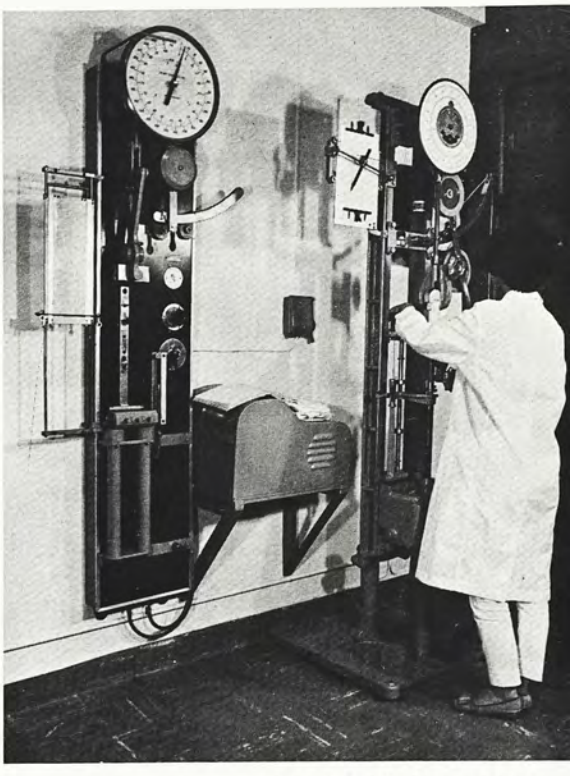


Lap Meter

QUALITY



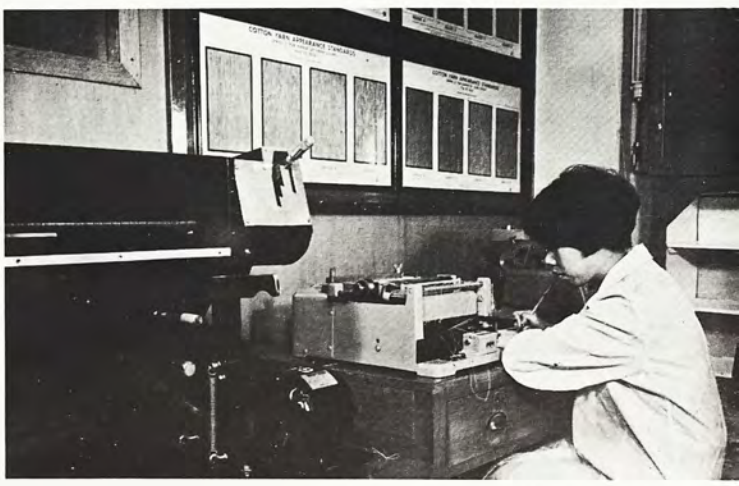
"Uster" Evenness Tester



"Scott" Fabric Strength Tester

"Roder" Torsion Coefficient Tester

CONTROL



"K. Zweigle" Sizing Yarn Abrasion Tester

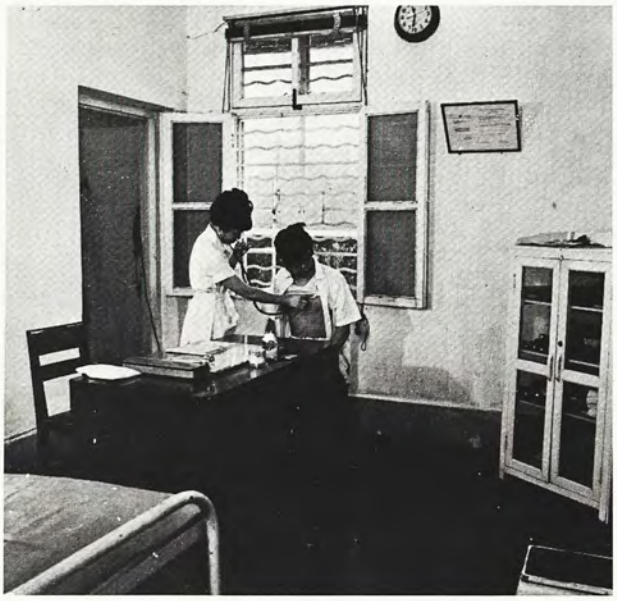
South Sea English Secondary School

Female Workers Dormitory

Basket Ball

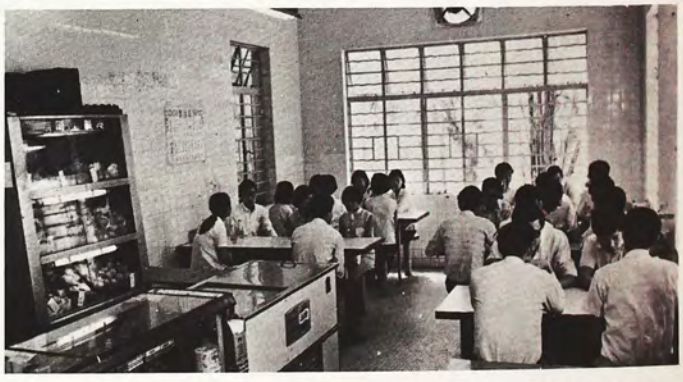
Foot

Workers Dinning Hall

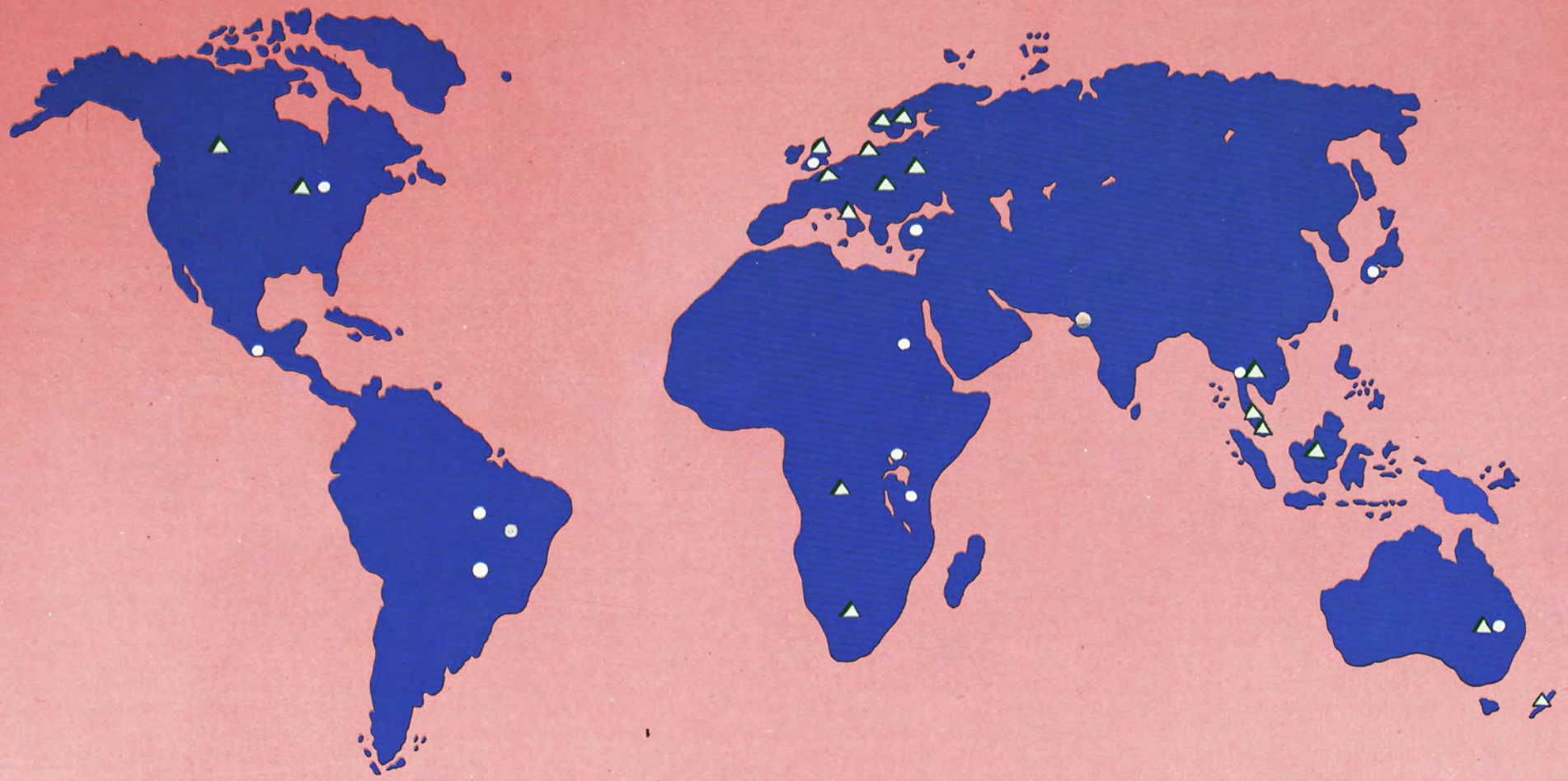


Infirmary

Recreation Center



Co-operative Store



● **SOURCES OF RAW COTTON & MAN-MADE FIBRES**

Australia
Brazil
Japan
Mexico
Pakistan
Sudan
Tanzania
Thailand
Turkey
Uganda
United Kingdom
United States of America

▲ **MARKETS FOR FINISHED PRODUCTS**

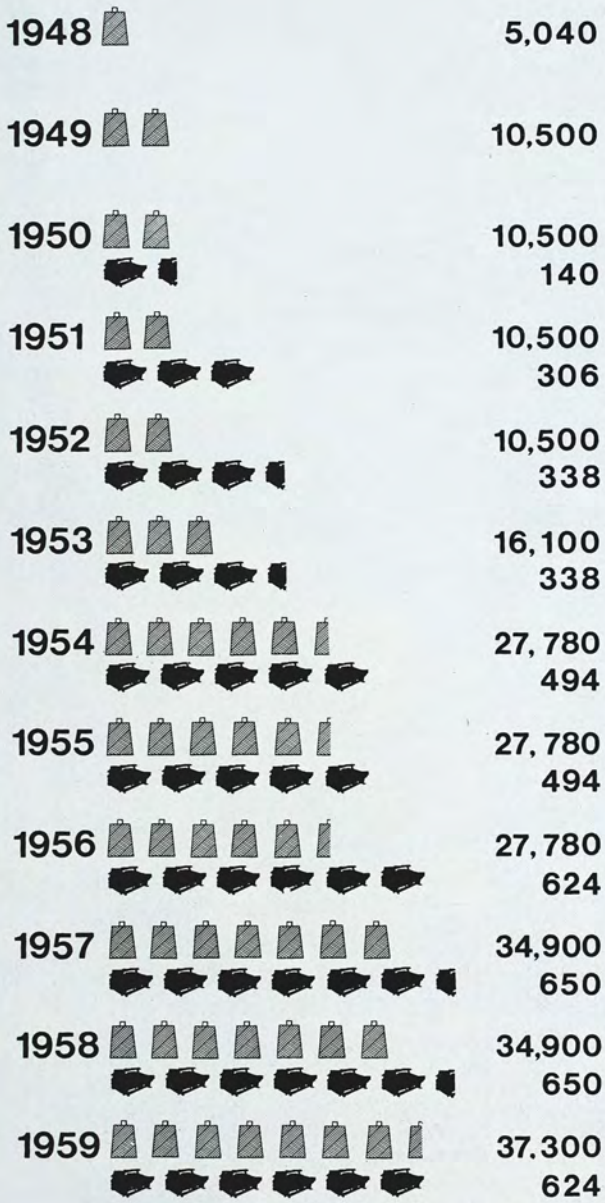
Australia
Belgium
Canada
Denmark
Indonesia
Italy
Malaysia
New Zealand
Norway
Singapore
South & Central Africa
Sweden
Thailand
United Kingdom
United States of America
Western Europe

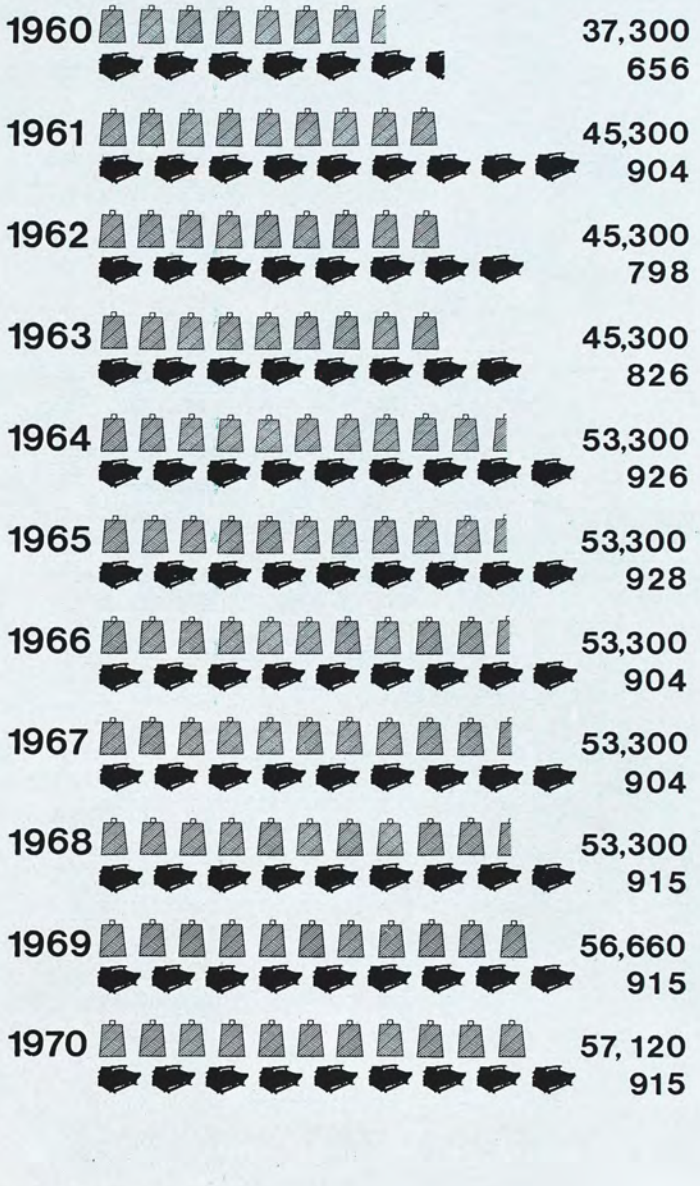
YEARLY OUTPUT

● **SPINNING DEPT.**
COTTON YARN (Converted to Equivalent of 20 counts)
(Approximate No. of lbs.)

◆ **WEAVING DEPT.**
COTTON PIECEGOODS
(Approximate No. of sq. yd.)

Number of spindles & automatic looms in operation





SPINDLES

AUTOMATIC LOOMS

SOUTH SEA TEXTILE MANUFACTURING COMPANY, LIMITED

SOME FACTS AND FIGURES

Company Established:	1948
Factory Area:	786,171 sq. ft.
Floor Spaces:	721,317 sq. ft.
Installed Capacities:	57,120 Ring Spindles 4,952 Twisting Spindles 915 Automatic Looms
Trade Marks:	"Flying Fish", "Goddess of Mercy" and "Squirrel".
Production:	Carded and combed grey weaving and knitting cotton yarns, 'Terylene' and 'Terylene' blended yarns and other synthetic fibre and synthetic fibre blended yarns, 8's to 60's, single and double; grey loomstate cotton, 'Terylene' and 'Terylene' blended cloths, and other synthetic fibre and synthetic fibre blended cloths, sheetings, drills, jeans, twills, poplins, satins, osnaburgs, bedfords, hair-cords, etc. up to 72" width.
Output:	2,300,000 lbs. of yarn, 20/1, and 4,100,000 square yards of cloth per month (Average picks at 60).
Raw Cotton and Man-Made Fibres Used:	About 2,600,000 lbs. per month.
Sources of Supply of Raw Materials:	
Cotton:	Australia, Brazil, Mexico, Pakistan, Sudan, Tanzania, Thailand, Turkey, Uganda, U.S A. etc.
Man-Made Fibres:	Japan, U.K., U.S.A. etc.
Principal Markets:	Australia, Belgium, Canada, Denmark, Indonesia, Italy, Malaysia, Netherlands, New Zealand, Norway, Singapore, South & Central Africa, Sweden, Switzerland, Thailand, United States of America, the United Kingdom, West Germany, and Local.
Numbers of Employees:	1,570 male 910 female
Working Hours:	3 shifts system-8 hours per shift.
Welfare Services:	Free dormitory and subsidized meals for all workers, clinic, cooperative stores, library, playing fields, swimming pool, accident insurance, free schooling and vocational training programme for apprentices and junior operatives.

額外工資獎勵計劃對工人工作滿足感之個案研究

周守謙

紡織业为香港工业之一大支柱，而紡織业所僱用之工人亦佔香港劳工甚大比例。自一九六九年以来，工业界劳工日趨短缺，此種情形对紡織业影响尤甚。蓋一般而言，紡織廠之工作間遠不如電子、製衣、塑膠玩具之佳。为爭取劳工，紡織廠給予工人甚多之額外工資獎勵。紡織廠之額外獎勵計劃，不独可吸引工人從事夜班、超時工作，且可減少工人之流動率及缺勤率，增加工廠之生產力。本研究之要旨即在探討額外工資獎勵計劃與工人工作滿足感

之关係。此外，本文亦着重探討額外工資獎勵計劃对工人流動率、缺勤率及生產力之影响，額外工資獎勵計劃之修訂，工人对工廠滿意或不滿意之各項因素之分析以及作者所提供之建議。

本文之研究对象为南海紡织有限公司。該公司創設於一九四八年，目前在九龍新界荃灣九咪半有一佔地七十八萬餘方呎之廠址，廠地有七十七萬餘方呎，擁有五萬八千餘紗錠，五千九百餘併線錠及八百八十四台織布機。以錠數言，佔香港第二位；以織布機言，則居第一位。

額外工資獎勵計劃所研究之工人为該廠之值車工，值

車工乃管理紡織廠內機器之工人，对生產有最直接之關係。在一九七四年三月份內，該廠值車工共計有八百一十一人，本研究先將每廠別、班別、車間人數記下，然後以抽籤方式，向四百。七人以不記名問卷調查其對工作滿足或不滿足之程度、因素及其對額外工資獎勵之意見。額外獎勵項目計有：(一)年終獎金；(二)夜班津貼；(三)勤工賞；(四)延長工資；(五)全期到工獎；(六)禮拜工工資。此六項額外工資獎勵均載於一九七三年七月修訂之南海紡織有限公司計時工工資標準及各種額外工資或津貼計算辦法手冊內，而值車工均有領取上述任何一項額外工資獎勵之資格，惟必

需符合領取某項額外工資獎勵之个別條件。

研究結果，顯示大部份值事工皆認為上述六項額外工資獎勵重要，其中尤以全期到工獎、延長工工資及勤工賞為最。計有百份之五十以上值事工認為該三項額外工資獎勵為重要及甚重要。反之，只有年終獎金一項有百份之四十以上值事工認為不重要及毫不重要。依作者調查所得，某項額外工資獎勵被認為重要之因素有二：(一)獎額高。(二)頒發快。

調查又顯示，南海紡織有限公司之工人大体上均對其工作頗為滿意。作者曾用 CHI-SQUARE TEST 探討額外工資獎

勵與工作滿足感二者間關係，結果顯示除夜班津貼外，其餘皆有統計關連。夜班津貼之關連性不高，主要因為大部份夜班工人之工作滿足感均不高，而日間工作滿足感高之值車工則多認為夜班津貼對彼等無甚影響。夜班津貼之獎額雖高（每夜之特別津貼為港幣一圓八角，全期到工獎為每夜二圓），較日、中兩班之全期到工獎五角高出一圓五角之多，故因以日為夜，值車工多認為此種生活不正常，且夜班亦妨礙正常之社交活動。

南海之管理人員皆認為額外工資獎勵與生產力之關係甚為重要，彼等舉出一近例以為證明：一九七三年九月該

該廠實施斷頭獎，此獎之对象为細紗間之值車工及落紗長。在實施此項獎勵之前，紗廠二十四小時內每千錠斷頭率通常为十五，唯每届轉班（即日班換中班、中班換夜班、夜班換日班）及麵包兜售時間（向工人兜售飲品及麵包），其斷頭率則昌升至三十以上。斷頭獎即針對此情形而發，在上述斷頭率昌升時間內，廠方派人至各細紗間紀錄其斷頭數，如斷頭數低於若干，則每日每人頒發若干獎金。自此獎勵公佈後，斷頭率遂無上述昌升之弊。斷頭率減少，則紗之產量自增。據該廠計劃科統計，自實施斷頭獎後，各細紗間之「平均總錠扯」均告增加，此實為額外獎勵对生產力有極

大關係之明證。

作者又利用一九七三及一九七二兩年之值車工流動率繪出二曲線。曲線顯示其走勢與額外獎勵有頗大之關連。曲線呈現三个不同的明顯走勢：第一为十月至二月，此期內流動率甚低，原因为值車工並欲獲得農曆元旦前發給之年終獎金及長期服務獎。第二期为二月至五月，此期內流動率急線上升，因值車工獲得年終獎金及長期服務獎後，頗多回鄉與家人共渡農曆假期；更有一部份值車工於獲得獎金後，計劃趁一年開始，轉換新工作。第三期自六月至九月，此期內流動率波動甚大，原因有三：暑熱使值車工

頻頻缺勤。(二)暑熱使值車工與領班糾紛特多。(三)值車工於此期內較易患病。

缺勤率曲線與流動率相若，十月至一月期內缺勤率最低，原因亦為年終獎金與長期服務獎之吸引，因為缺勤及事假多，則年終獎金將隨之減少。又一九七三年之缺勤率較一九七二年為低，此乃因一九七三年香港經濟不及一九七二之佳，生活指數既日高，就業亦不及一九七二年。

根據額外獎勵計劃與工作滿足感兩者間數值上之關連，以及此項獎勵對生產力、流動率及缺勤率之影響，作者相信二者間關係甚大。

作者又從調查獲知南海紡紐有限公司值車工之群性頗高，而根據行為學者理論，群性高之工人可以為福亦可以為禍。因此，作者建議該廠：(一)應找出工人非正式小組之領袖，遇有任何有關工人之改革，均可與該領袖商議，以收事半功倍之效。(二)領班應請學歷較高者担任，以便領導工人。(三)成立一特別委員會以處理有關糾紛。(四)應設徵求工人對工作之意見，有建設性者應予以獎勵。

不少工人認為額外工資獎勵能減輕工作上的沉悶感，是故作者建議應盡可能多設額外工資獎勵。並額外工資獎勵一旦設立後，並非始終維持不變，而是應時加修改，以

適應時勢。除金錢報酬外，教方應多舉辦旅行、野火會、綜合晚會等活動，使工人能多參予此類社交活動，豐富其生活，從而提高其工作滿足感。